ADDITIONS, CHANGES AND CORRECTIONS

TO KEEP YOUR PHOTOFACT FOLDERS UP TO THE MINUTE

AIRLINE - MODELS 54WG-1801A, 54WG-1801B, 64WG-1801C

Page 4 - The item number on audio coupling capacitor should be 11 instead of 17.

CUT ON THIS LINE—MOISTEN EDGE—AND APPLY TO PROPER FOLDER

AUDAR - MODEL P-5

Page 4 - Delete line between chassis and connection of rectifier plate pin #5 and power transformer.

CUT ON THIS LINE—MOISTEN EDGE—AND APPLY TO PROPER FOLDER

BENDIX - MODEL 656A

Page 2 - Item 7A, B, C AEROVOX Part Listing should be AF888D.
Page 2 - Item 24A CLAROSTAT Part Listing should be T-101 and Item 24C CLAROSTAT Part Listing should be SWA.

Page 4 - Item 45 MEISSNER Part Listing should be 14-1027.

CUT ON THIS LINE—MOISTEN EDGE—AND APPLY TO PROPER FOLDER

BENDIX - MODELS 676B, 676C, 676D

Page 3 - The note "Not used in all models." after Resistor Part Listing should be preceeded by ‡.

Page 3 - Item 53 STANCOR Part Listing should be A-3877†. Add note, "†Drill one new mounting hole." under Installation Notes.

CUT ON THIS LINE—MOISTEN EDGE—AND APPLY TO PROPER FOLDER

CLARION - MODEL C108

Page 2 - Item 25 THORDARSON Part Listing should be T-22S47†. Add note, "†Drill one new mounting hole" under Installation Notes.

Page 3 - Item 26A JENSEN Part Listing should be ST-109 Mod. P6-W.

CUT ON THIS LINE—MOISTEN EDGE—AND APPLY TO PROPER FOLDER

CROSLEY - MODEL 56TG

Page 2 - Item 6A, B, C AEROVOX Part Listing should be PRSA150-40-30/25-20.
Page 2 - Item 16A CROSLEY Part Listing should be B135127-A6121.
Page 2 - Item 20 Identification Code should be Grn.-Blk.-Grn. 1st AF Grid.

Page 4 - Osc. pad shown as Item 31 should be Item 30. Adjustable slug on Item 30 should be A7. Item 31 should be on oscillator section of ganged tuning assembly.

CUT ON THIS LINE—MOISTEN EDGE—AND APPLY TO PROPER FOLDER

CROSLEY - MODELS 66TA, 66TW, 66TC

Page 2 - Add note after Capacitor Listings as follows: "Later production models have a 40 MFD. output section of filter."
Page 2 - Add note after Resistor Listing as follows: "Later production models use a 1000Ω 10W resistor in place of speaker field."

Page 3 - Item 38 STANCOR Part Listing should be P-6120†. Add note - †Drill four new mounting holes.
Page 3 - Item 40 add Installation Note - "Used in early production."

CUT ON THIS LINE—MOISTEN EDGE—AND APPLY TO PROPER FOLDER

ECA - MODEL 101

Page 2 - Item 6A, B SOLAR Part Listing should be M-50-30-150.

Page 4 - On the schematic remove lead from Pin 7 of 35Z5 shown connected to B-. Remove number 7 on 35Z5 between numbers 2 and 3 on filament string. Lead from Item 16 (20K resistor) shown connected below Item 14 should be shown connected above (between Item 14 and pin 5 of 12SA7).

ADDITIONS, CHANGES AND CORRECTIONS

TO KEEP YOUR PHOTOFACT FOLDERS UP TO THE MINUTE

ADMIRAL - MODEL 6RP48-3A1

Page 1 - Identification should be "Chassis 3A1"
Page 1 - TRADE NAME - Should read Admiral Models 6RP48, 6RP49 (3A1)
Page 1 - TUBES - Should be Types, 14B6 Amplifier, 50A5 Power Output, 35Y4 Rectifier.
Page 1 - POWER SUPPLY - Should be RATING - .240 Amp. @ 117V AC.

CUT ON THIS LINE—MOISTEN EDGE—AND APPLY TO PROPER FOLDER

ADMIRAL - MODELS 6T01, 6T05

Page 1 - Identification should be "Chassis 6A1"
Page 1 - TUBES (SIX) - Should be Types, 12SJ7 RF Amp., 12SA7 1st Det.-Osc., 12SK7 IF Amp., 12SQ7 2nd Det.-AVC-1AF, 35L6GT Power Output, 35Z5GT Rectifier.

Page 2 - Item 24 - Delete listings under MALLORY, SOLAR, SPRAGUE, AEROVOX, and CORNELL-DUBLIER.

CUT ON THIS LINE—MOISTEN EDGE—AND APPLY TO PROPER FOLDER

ADMIRAL - MODELS 6T02, 6T04

Page 1 - Identification should be "Chassis 5B1"
Page 1 - TRADE NAME - Should read Admiral Models 6T02, 6T04, 6T11 (Chassis 5B1)
Page 2 - Item 30 - STANCOR Part listing should read A3876‡, and THORDARSON Part listing should read T-13S42‡. Installation Note headed by * should be deleted.

CUT ON THIS LINE—MOISTEN EDGE—AND APPLY TO PROPER FOLDER

AIRCHIEF - MODEL 4-A23 (Code 5-5-9003A)

Page 2 - Item 8,A,B,C SOLAR Part listing should be DY-2x20-400/20-25. AEROVOX Part listing should be AF22J4A.

Page 4 - Item 60 MEISSNER Part listing should be 14-1044
Page 4 - " 61 " " " " " 14-1027
Page 4 - " 63 " " " " " 14-1046

Page 6 - The item number on the Feedback Capacitor should be 13 instead of 1.31. The IF Cathode Resistor should be Item 40. Stage gain value for IF stage should be at 455 KC instead of 600 KC as shown.

CUT ON THIS LINE—MOISTEN EDGE—AND APPLY TO PROPER FOLDER

AIR KING - MODEL 4603

Page 1 - TUBES - Should be (SIX) instead of (FIVE)

CUT ON THIS LINE—MOISTEN EDGE—AND APPLY TO PROPER FOLDER

AIR LINE - MODELS 54BR-1503 A,B,C; 54BR-1504 A,B,C.

Page 2 - Item 6A,B - 60-40-40 SPRAGUE Part listing should be EL-340 and Item 6C should be UT201.
Item 6A,B,C - 60-40-40 AEROVOX Part listing should be AF888D.

CUT ON THIS LINE—MOISTEN EDGE—AND APPLY TO PROPER FOLDER

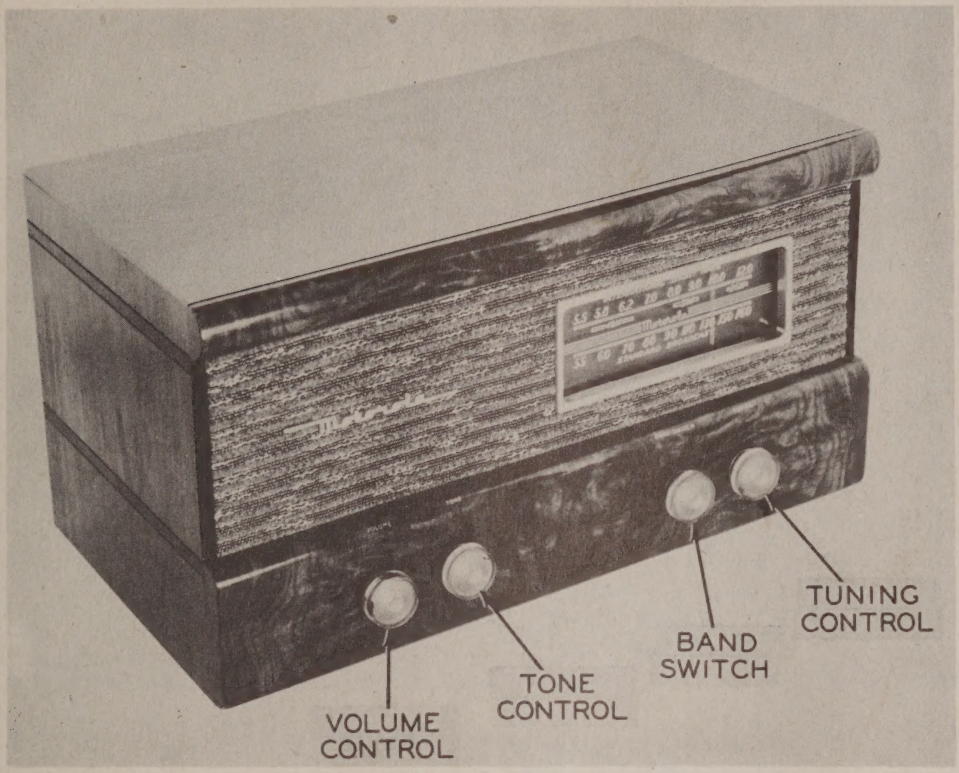
AIRLINE - MODELS 54BR-1505A,B; 54BR-1506A,B.

Page 2 - Item 6A,B - 40-20 CORNELL-DUBILIER Part listing should be UP4215T.
Page 2 - Item 6A,B - 60-40 AEROVOX Part listing should be AF88D. CORNELL-DUBILIER Part listing should be UP6BJ34.

CUT ON THIS LINE—MOISTEN EDGE—AND APPLY TO PROPER FOLDER

AIRLINE - MODEL 64BR-916A

Page 2 - Item 4A,B SOLAR Part listing should be DY-2x40-150. CORNELL-DUBLIER Part listing should be UP4415.



MOTOROLA 65T21

TRADE NAME - Motorola, Model 65T21, 65T21B (Chassis HS-32)

MANUFACTURER - Galvin Mfg. Corp. 4545 Augusta Blvd., Chicago, Illinois

TYPE SET - AC 2 Band Superheterodyne
Self Contained Loop Antenna

SIX TUBES - Types 6SG7 Mixer, 6J5 Oscillator, 6SG7 IF Amplifier, 6SQ7 Det-AVC.-AF, 6K6GT Power Output, 5Y3GT Rectifier

POWER SUPPLY - 117 Volts AC at 60 Cycles - 0.48 Amps.

TUNING RANGE - Broadcast 535 - 1620 KC

TUNING RANGE - Short Wave 5.6-12.2 MC

ALIGNMENT INSTRUCTIONS

Dummy Antenna *	Signal Generator Connection	Signal Generator Frequency	Band Switch Pos.	Adjustment Points	Output Meter Connection	Remarks
.1 mfd.	Mixer Grid through dummy	455KC	BC	A1,A2,A3,A4	Voice Coil	Adjust for maximum reading
	Loop †	1600KC	BC	A5	" "	" " " "
	Loop †	1400KC	BC	A6	" "	" " " "
400Ω	Ext. Ant.	12MC	SW	A7	" "	" " " "
400	Ext. Ant.	10MC	SW	A8	" "	" " " "

* Dummy Antenna or Coupling Unit. Use minimum signal strength providing accurate reading on output measuring unit with volume control at maximum.

† For RC Alignment (1400 KC, 1600 KC) radiate signal into loop,

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM NO.	USE	REPLACEMENT DATA: MOTOROLA PART NO.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Mixer	6SG7	6SG7	8BK	
2	Oscillator	6J5	6J5	6Q	
3	IF Amp.	6SG7	6SG7	8BK	
4	Det.-AVC-AF	6SQ7	6SQ7	8Q	
5	Power Output	6K6GT	6K6GT	7S	
6	Rectifier	5Y3GT	5Y3GT	5T	

CAPACITORS

ITEM NO.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: MOTOROLA PART NO.	MALLORY PART NO.	SOLAR PART NO.	SPRAGUE PART NO.	AEROVOX PART NO.	CORNELL-DUBILIER PART NO.	IDENTIFICATION CODES AND INSTALLATION NOTES
7 (A)	30	350	23A27718	FP331	DY-30-450/	EL-323		UP6C707	■ Filter
(B)	30	300			30-350/20-25	"			▲ "
(C)	20	25				"			"
8	.005	600	8S9813	TP408	S-6-005	TC-25	684-.005	DT6D5	Pwr.Amp.By pass
9	.05	400	8S9816	TP426	S-4-05	TC-15	484-.05	DT4S5	Audio Coupling
10	.005	300	8S9813	TP408	S-6-005	TC-25	684-.005	DT6D5	Tone Cont.Coupl.
11	.005	300	8S9813	TP408	S-6-005	TC-25	684-.005	DT6D5	Tone Cont.Shunt
12	.005	600	8S9813	TP409	S-6-005	TC-25	684-.005	DT6B5	Vol.Cont.Coupl.
13	.05	400	8S9816	TP426	S-4-05	TC-15	484-.05	DT4S5	Screen Bypass
14	.05	400	8S9816	TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
15	.05	400	8S9816	TP426	S-4-05	TC-15	484-.05	DT4S5	Osc.Plate Bypass
16	.05	400	8S9816	TP426	S-4-05	TC-15	484-.05	DT4S5	Mixer Cath.Bypass
17	.05	400	8S9816	TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
18	500	500	21R6639	MC245	M0.5-35	1FM35	1468-.0005	5W5T6	Audio PlateBypass
19	500	500	21R6639	MC245	M0.5-35	1FM35	1468-.0005	5W5T5	RF Bypass (Diode)
20	50	500	21R6642	MC225	M0.5-45	1FM45	1468-.00005	5W5Q5	Osc. Grid Cond.
21	1000	300	21R2724	MC455	MW.5-21	1FM21	1467-.001	IW5D1	Fixed Ant. Pad
22	50	500	21R6642	MC225	M0.5-45	1FM45	1468-.00005	5W5Q5	Ant. Grid Coupling

Capacity values given in the rating column are in mfd. for Electrolytic and Paper capacitors, and in mfd. for Mica and Ceramic capacitors.

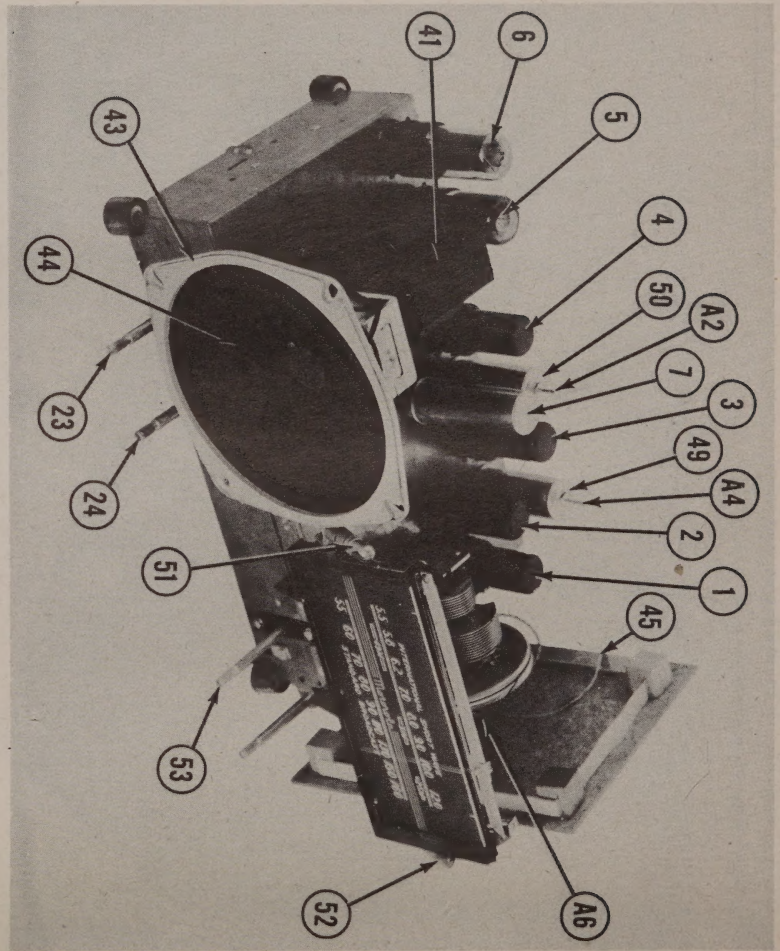
CONTROLS

ITEM NO.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: MOTOROLA PART NO.	MALLORY PART NO.	IRC PART NO.	CLAROSTAT PART NO.	INSTALLATION NOTES
23 (A)	1 Meg at 300K	1	18K70068	TM238	D13-137X	AT98	
(B)	Shaft		Not Req.	SS25	E	KSS-3	Attach to 23(A) per instr.
(C)	Switch		Not Req.	M26	41	SWA	Attach to 23(A) per instr.
24 (A)	1 Meg.	1	18K70067	UM160	D14-137		
(B)	Shaft		Not Reg.	SS25	E		Attach to 23(A) per instr.

RESISTORS

ITEM NO.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: MOTOROLA PART NO.	IRC PART NO.	IDENTIFICATION CODES
25	470K Ω	1/2	6R6032	BTS-470K	Yl.-Vi.-Yl. Mixer Grid Load
26	47K Ω	1/2	6R6056	BTS-47K	Yl.-Vi.-Or. Oscillator Grid
27	470 Ω	1/2	6R6090	BTS-470	Yl.-Vi.-Br. Mixer Cathode
28	4.7 Meg.	1/2	6R2122	BTS-4.7 Meg.	Yl.-Vi.-Grn. AVC Network
29	4.7 Meg.	1/2	6R2122	BTS-4.7 Meg.	Yl.-Vi.-Grn. AVC Network
30	2.2 Meg.	1/2	6R3927	BTS-2.2 Meg.	Red-Red-Grn. Isolating
31	22K Ω	1/2	6R6068	BTS-22K	Red-Red-Or. Screen Dropping
32	1000 Ω	1/4	6R6053	BTS-1000	Br.-Blk.-Red Plate
33	3.3 Meg.	1/2	6R2118	BTS-3.3 Meg.	Or.-Or.-Grn. 1st AF Grid Load
34	1 Meg.	1/2	6R6004	BTS-1 Meg.	Br.-Blk.-Grn. Diode Load
35	22 Ω	1/2	6R5406	BW-½-22	Red-Red-Blk. 1st AF Cathode
36	33K Ω	1/2	6R2012	BTS-33K	Or.-Or.-Or. Tone Compensation
37	220K Ω	1/2	6R6015	BTS-220K	Red-Red-Yl. Plate Load

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

RESISTORS (CONTD.)

ITEM NO.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA MOTOROLA PART NO.	REPLACEMENT DATA IRC PART NO.	IDENTIFICATION CODES
38	36Ω	1/2	6R2085	BW-½-39	Or.-Wh.-Blk Voltage Div. and Bias
39	270Ω	1	6R6035	BW-1-270	Red-Vi.-Br. Voltage Div. and Bias
40	220K	1.2	6R8015	BTS-220K	Red-Red-Yl. AF Output Grid Load

TRANSFORMER (POWER)

ITEM NO.	RATINGS PRI.	SEC.1	SEC.2	SEC.3	REPLACEMENT DATA MOTOROLA PART NO.	STANCOR PART NO.	THORDARSON PART NO.	UTAH PART NO.
41	117V. .48 Amp.	550V. .054 Amp.	5V. 1.82 Amp.	6.3V. 2.0 Amp.	25B21248	P6119	T13R11	Y650
					INSTALLATION NOTE - Use Mounting Brackets on P6119 and 13R11.			

TRANSFORMER (OUTPUT)

ITEM NO.	RATINGS IMPEDANCE PRI.	SEC.	DC PRI.	RES SEC.	REPLACEMENT DATA MOTOROLA PART NO.	STANCOR PART NO.	THORDARSON PART NO.	UTAH PART NO.	INST. NOTE NO.
42	7Kω	4ω	460ω	0.5ω	25B21175	A-3856	T13S37	S775	

SPEAKER & CONE

ITEM NO.	RATINGS FIELD RES.	RATINGS VC IMP.	REPLACEMENT DATA MOTOROLA PART NO.	JENSEN PART NO.	UTAH PART NO.	INSTALLATION NOTE (NO.)
43	1275	3.3	50B71147	ST567†	†	
	CONE DIA.	VC DIA.				
44	6"	3/4"	NOT REPLACEABLE - Use Complete Speaker Unit.			

† Requires mounting bracket to duplicate original speaker position.

RF COILS

ITEM NO.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA MOTOROLA PART NO.	MEISSNER PART NO.	INSTALLATION NOTES
45	BC. Ant.		3Ω	24C72483	†	
46	SW. Ant		0	24A70548	†	
47	BC. Osc.		7Ω	24A70546	†	
48	SW. Osc.		0	24A70549	†	
49	Input IF	13Ω	12Ω	24B70545	†	
50	Output IF	14Ω	14Ω	24B70537	†	

DIAL LIGHT

ITEM NO.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA MOTOROLA PART NO.	INSTALLATION NOTES
51	Bayonet	6.3	.250	Blue	65X10867	
52	Bayonet	6.3	.250	Blue	65X10867	

BAND SWITCH

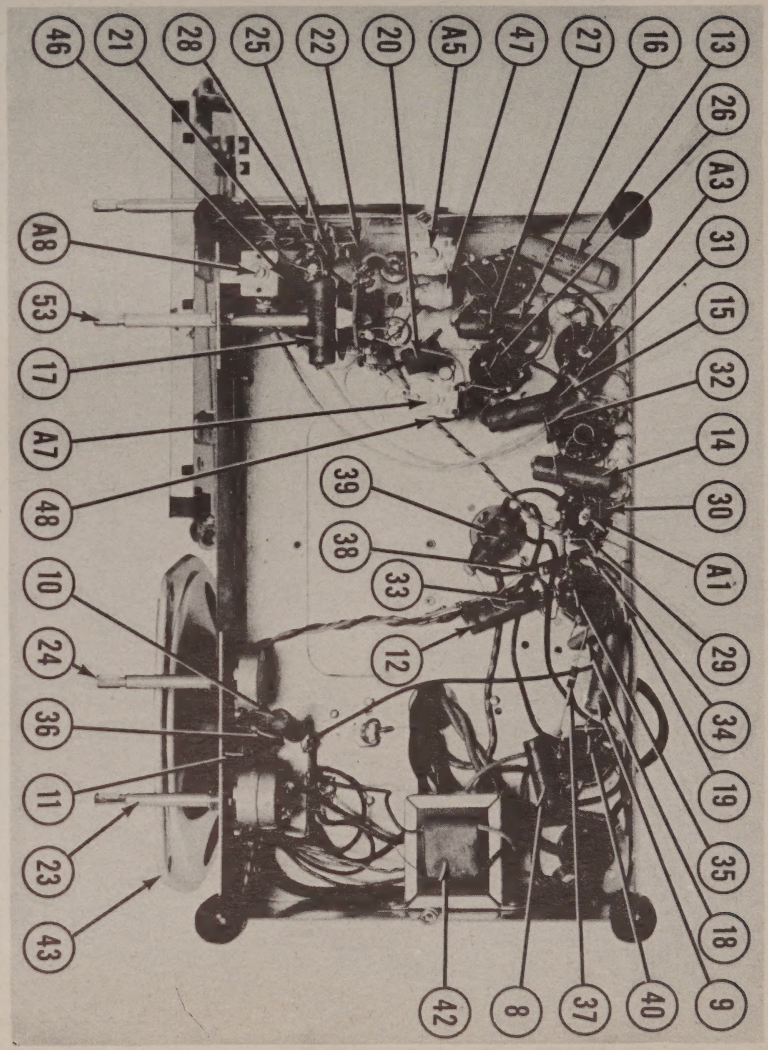
ITEM NO.	MOTOROLA PART NO.
53	40A71255

ADJUSTABLE CAPACITORS

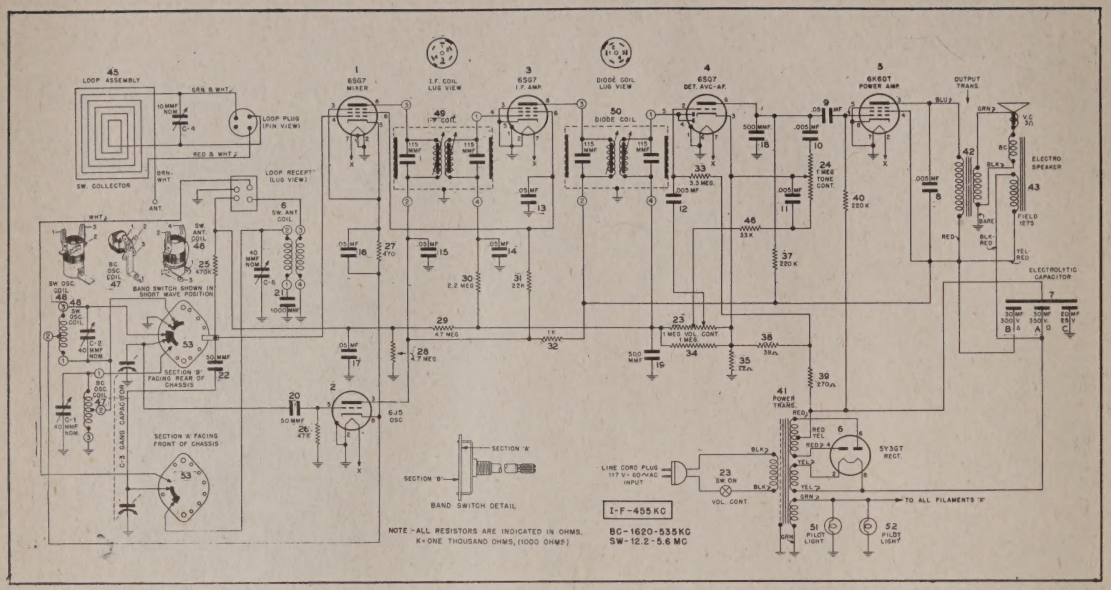
ITEM NO.	DIAGRAM NO.	MOTOROLA PART NO.	DESCRIPTION
A7	C-3	19B71135	Main Tuning - 23 & 17 Plate
A6	C-6	20A71125	Trimmer - 40 Mmfd. Nominal
A5	C-1	20A71140	Trimmer - 40 Mmfd. Nominal
A8	C-2	20A71141	Trimmer - 40 Mmfd. Nominal
A6	C-4	20A71051	Trimmer - 10 Mmfd. Nominal

† Tentative specification.

CHASSIS—BOTTOM VIEW

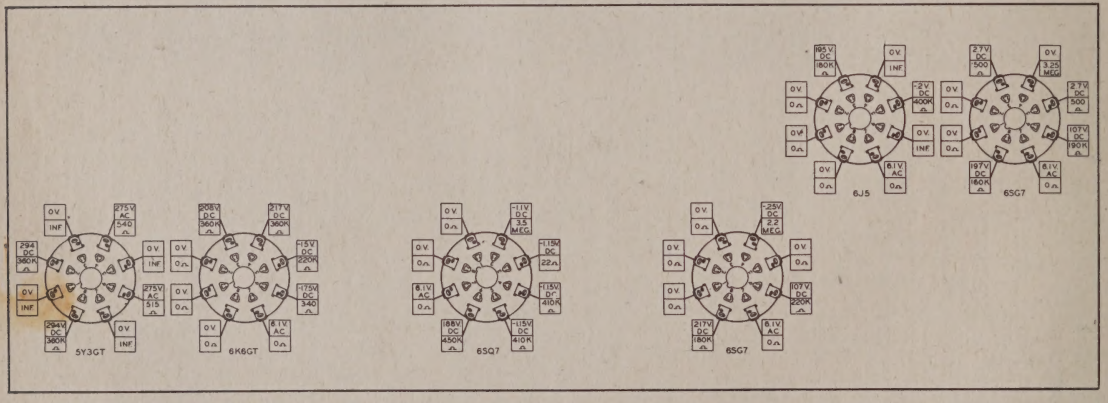


SCHEMATIC DIAGRAM



At the request of the manufacturer reference stage gain measurements are not included.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to chassis.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values make possible a variation of ± 10% in voltage and resistance readings.

HOWARD W. SAMS & CO., INC.

2924 EAST WASHINGTON STREET • INDIANAPOLIS 6, INDIANA

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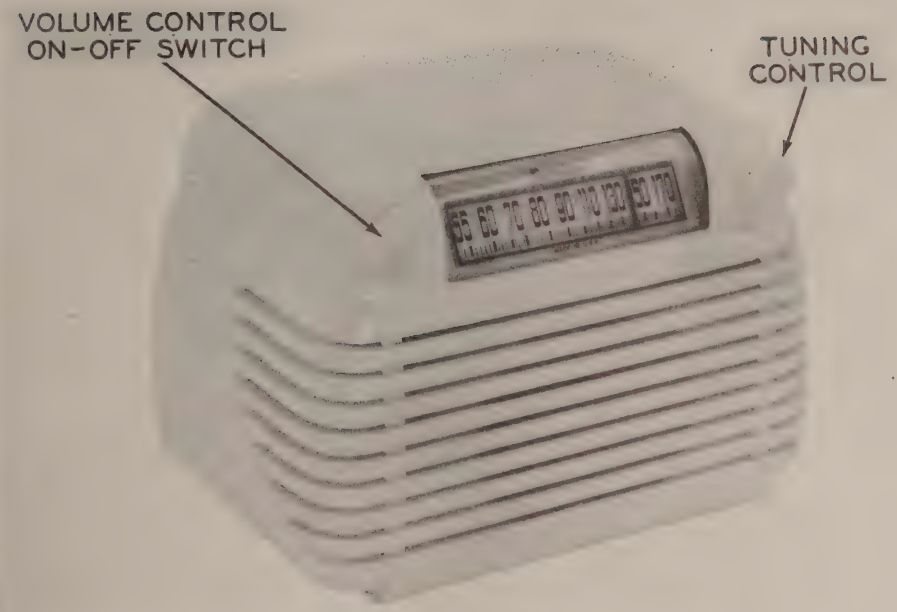


SENTINEL 284I

TRADE NAME	Sentinel Models 284I, 284NA, 284NI, 284W, 1U-284I, 1U-284NA, 1U-284NI, 1U-284W
MANUFACTURER	Sentinel Radio Corp. - 2020 Ridge Avenue - Evanston, Illinois
TYPE SET	AC-DC Superheterodyne, Self-Contained Loop Antenna
TUBES (FIVE)	Types 12SA7 Osc.-Mod., 12SK7 IF Amp., 12SQ7 Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier
POWER SUPPLY	117 Volts AC-DC Rating 117 V. AC @ .235 Amp.
TUNING RANGE	BROADCAST 550 - 1700 KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD	Rear Stator Plates of Tuning Cap. and Ground Lead to Frame	455 KC	High end of band	Voice Coil	A1,A2, A3,A4	Adjust for maximum reading. Use isolation transformer if available. If not, isolating capacitor must be connected between signal generator ground and receiver common negative. Also decrease dummy antenna to .001 MFD. to prevent excessive hum modulation.
.00025 MFD.	Antenna Lead (Blue) and Grnd. Lead (Black)	1730 KC	1730 KC	"	A5	Adjust for maximum reading.
"	"	1400 KC	1400 KC	"	A6	" "

Volume control maximum for all adjustments. Minimum output from signal generator giving accurate output readings. Loop placed as it will be when set is in cabinet.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		SENTINEL PART No.	STANDARD REPLACEMENT		
1	Osc.-Mod.	12SA7	12SA7	8R	
2	IF Amp.	12SK7	12SK7	8N	
3	Det.-AVC.-AF	12SQ7	12SQ7	8Q	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES*
	CAP.	VOLT	SENTINEL PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL DUBILIER PART No.	
6(A)	50	150	25E1	FP214	DY-2X50-150	EL-25	AF1010 D	UP6BJ34	■ Filter
(B)	50	150							■
7	.05	400	23E416	TP426	S-4-05	TC-15	484-.05	DT4S5	Line Bypass
8	.01	200	23E211	TP421	S-4-01	TC-11	484-.01	DT4S1	Pwr. Amp. Plate Bypass
9	.01	200	23E211	TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
10	.01	200	23E211	TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
11	.1	200	23E218	TP428	S-4-1	TC-1	484-.1	DT4P1	AVC Filter
12	100	500	23E39	MC235	MO.5-31	1FM-31	1468-.0001	5W5T1	Audio Plate Bypass
13	100	"	23E39	MC235	MO.5-31	1FM-31	1468-.0001	5W5T1	RF Bypass (Vol. Cont.)
14	100	"	23E39	MC235	MO.5-31	1FM-31	1468-.0001	5W5T1	RF Bypass (Diode)
15	100	"	23E39	MC235	MO.5-31	1FM-31	1468-.0001	5W5T1	Osc. Grid Capacitor

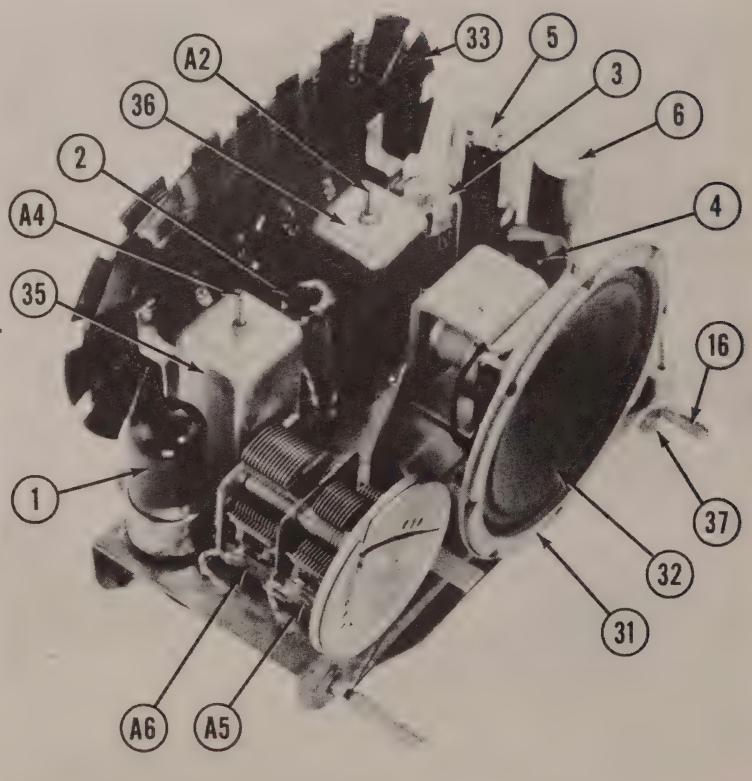
CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	SENTINEL PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	
16(A)	500KΩ	1	28E1	MK401	D13-133	AM-60-Z	See inst. note 1
(B)	Shaft		Not Req.		E	KSS-3	Attach to 16A Per instr.
(C)	Switch		" "	M26	41	SW-A	" " " "
							Inst. Note #1: Wrap scotch tape around shaft adjacent to guide disc for drive cord surface.

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES	
	RESISTANCE	WATTS	SENTINEL PART No.	IRC PART No.		
17(A)	47KΩ	1/3	27E473	BTS-47K	Yl.-Vl.-Or.	Osc. Grid (Used in first prod
17(B)	22KΩ	1/3	27E223	BTS-22K	Red-Red-Or.	Osc. Grid (Used in later prod
18	47Ω	1/3	27E470	BW-½-47Ω	Yl.-Vl.-Blk.	Osc. Grid (Used in first prod
19	10Meg	½	27E106	BTS-10Meg	Br.-Blk.-Blue	AVC Network
20	3.3Meg	1/3	27E335	BTS-3.3Meg	Or.-Or.-Grn.	AVC Network
21	68KΩ	1/3	27E683	BTS-68K	Blue-Gray-Or.	Diode Load
22	3.3Meg	1/3	27E335	BTS-3.3Meg	Or.-Or.-Grn.	1st AF Grid
23	220KΩ	½	27E224	BTS-220K	Red-Red-Yl.	1st AF Plate Load
24	470KΩ	½	27E474	BTS-470K	Yl.-Vl.-Yl.	Output Grid
25	150Ω	½	27E151	BW-½-150Ω	Br.-Grn-Br.	Output Cathode
26	2200Ω	1	27E222-2	BTA-2200Ω	Red-Red-Red	Filter
27	47Ω	½	27E470-2	BW-½-47Ω	Yl.-Vl.-Blk.	Filter
28	100Ω	½	27E101	BW-½-100Ω	Br.-Blk-Br.	Ballast
29	220KΩ	1/3	27E224	BTS-220K	Red-Red-Yl.	Line Isolating (Used in underwriters approved models only)

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		SENTINEL PART No.	STANCOR PART No.	THORDARSON PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
30	4970Ω	3.5Ω	237Ω	.96Ω	22E2	A-3877	‡	8775	New mounting hole req'd for Stancor Trans.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			SENTINEL PART No.	JENSEN PART No.	UTAH PART No.	
	FIELD	VC IMP.				
31	P.M.	3.5Ω	1E9	ST-443*	5PY*	* Mounting bracket must be fabricated to bring replacement to same position as original.
	CONE DIA.	VC DIA.				
32	4 5/8in.	½in.	Not replaceable - Use complete speaker unit.			

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	SENTINEL PART No.	MEISSNER PART No.	
33	Ant.	0Ω	.5Ω	20E24	‡	
34	Osc.	.5Ω	8.5Ω	20E162	‡	
35	Input IF	11Ω	11Ω	20E21	16-5740	
36	Output IF	11Ω	10Ω	20E22	16-5742	

DIAL LIGHT

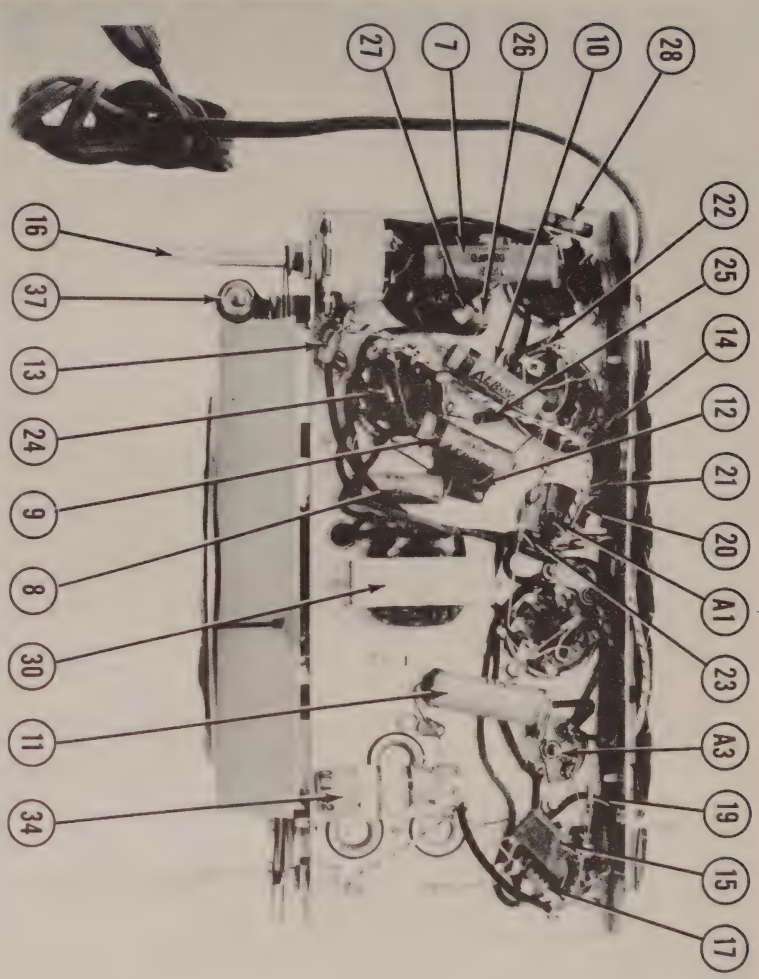
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					SENTINEL PART No.		
37	Min. Bayonet	6 - 8	0.15	Brown	40E1		

MISCELLANEOUS

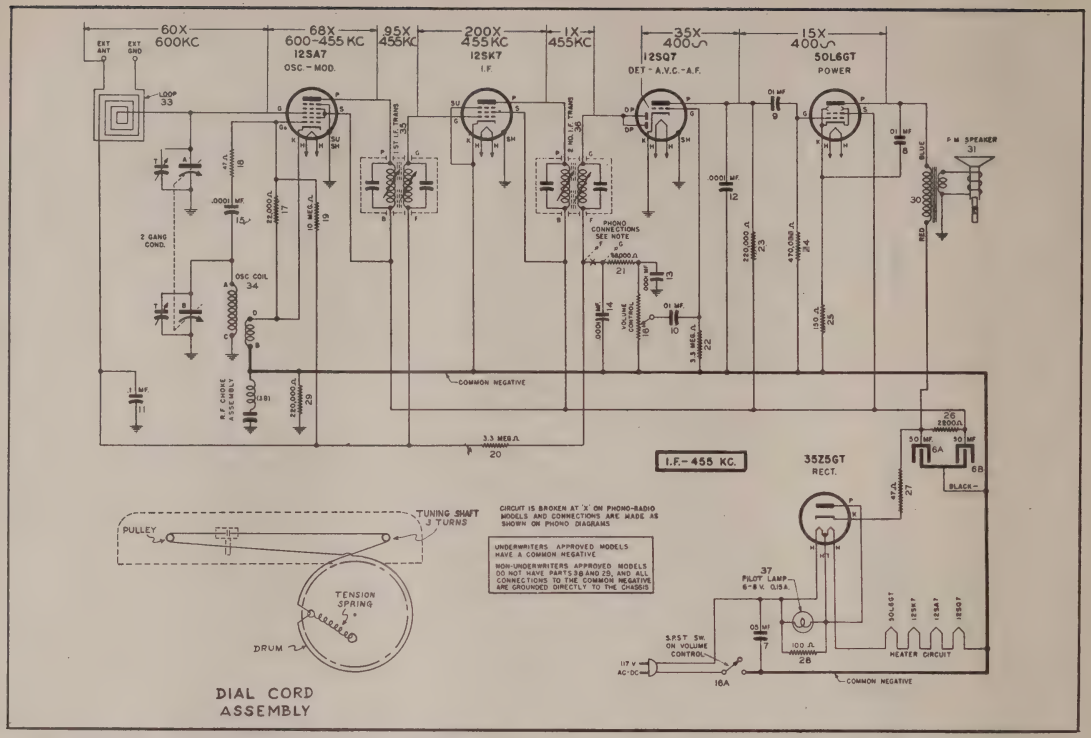
ITEM No.	NAME	SENTINEL PART No.	NOTES
38	RF Choke assembly	20E75	Underwriter approved models only.

‡ Tentative Specification

CHASSIS—BOTTOM VIEW



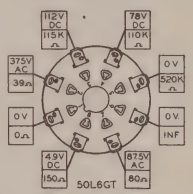
SCHEMATIC DIAGRAM

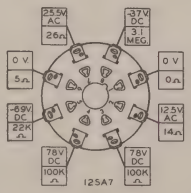


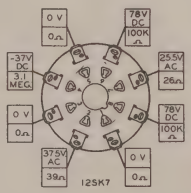
The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC action is made inoperative and 3 Volt battery bias substituted.

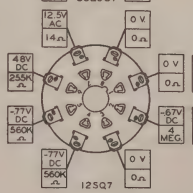
VOLTAGE AND RESISTANCE ANALYSIS CHART

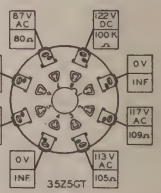
1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values make possible a variation of ± 10% in voltage and resistance readings











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ARVIN 444

TRADE NAME	Arvin, Models 444, 444A (Chassis RE-200)
MANUFACTURER	Noblitt-Sparks Industries, Inc. - 13th St. Big 4 RR - Columbus, Indiana
TYPE SET	AC-DC Superheterodyne with Coiled Antenna Hank
TUBES (FOUR)	Types 12SA7 Converter, 12SQ7 2nd. Det. - 1AF, 50L6GT Power Output, 35Z5GT Rectifier
POWER SUPPLY	117 Volts AC-DC Rating .260 Amperes at 117 V. AC
TUNING RANGE—BROADCAST	540 - 1600 KC **SHORT WAVE**

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.05MFD.	High side through dummy to 12SA7 Grid. Ground to common negative.	455 KC	High end of band.	Across voice coil	A1,A2	Adjust for maximum reading. Use isolation transformer if available. If not, isolating capacitor must be used between signal generator ground lead and receiver common negative. Also decrease dummy antenna to .001 mfd. to prevent excessive hum modulation.
50MMFD.	High side through dummy to antenna. Ground as above.	1400 KC	1400 KC	"	A3	" "
"	"	600 KC	600 KC	"		Adjust tuner plates for maximum output by bending.

Volume control at maximum for all adjustments. Minimum output from signal generator giving accurate output readings.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		ARVIN PART No.	STANDARD REPLACEMENT		
1	Converter	12SA7	12SA7	8R	
2	IF-Det.-Audio	12SQ7	12SQ7	9Q	
3	Power Output	50L6GT	50L6GT	7AC	
4	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	ARVIN PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	
5(A)	40	150	A19176	3N533	M-40-150	UT401	PRS150-40	E24215C	Filter - Red
(B)	20	150			M-20-150	UT201	PRS150-20		Filter - Blue
(C)	20	25			M-25-25	TA-25	PRS 25-25		Filter - Green
6	.05	400		TP426	S-4-05	TC-15	484-.05	DT4S5	Line Bypass
7	.01	400		TP421	S-4-01	TC-11	484-.01	DT4S1	Pwr. Amp. Plate
8	.002	600		TP405	S-6-002	TC-22	684-.002	DT6D2	Audio Coupling
9	.05	400		TP426	S-4-05	TC-15	484-.05	DT4S5	Line isolating
10	.05	200		TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
11	2000	500		MC457	MW.5-22	1FM-22	1467-.002	1W5D2	Audio Coupling
12	100	500		MC235	MO.5-31	1FM-31	1468-.0001	5W5T1	Audio Plate Bypass
13	100	500		MC235	MO.5-31	1FM-31	1468-.0001	5W5T1	RF Bypass Vol.Cont.
14	50	500		MC225	MO.5-45	1FM-45	1468-.00005	5W5Q5	Osc. Grid Cond.
15	40	500		MCB223	MOS.5-45	MS-44	1469-.00004	5R5Q4	RF Coupling

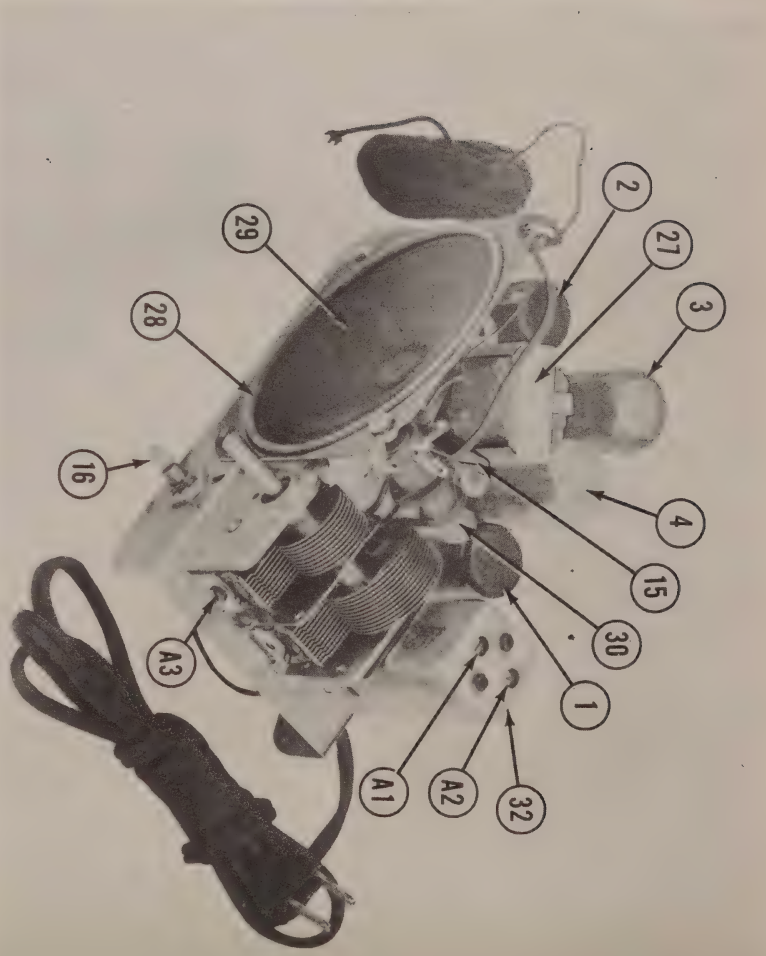
CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	ARVIN PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	
16(A)	2 Meg.	1	B18587	MR 55	DS13-139	M-66-Z	
(B)	Switch			M 26	41	SW-A	Attach to 16A per instructions

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES	
	RESISTANCE	WATTS	ARVIN PART No.	IRC PART No.		
17	22KΩ	½		BTS-22K	Red-Red-Or.	Osc. Grid
18	4.7Meg	½		BTS-4.7Meg	Yl.-Vi.-Grn.	AVC Network
19	15Meg	½		BTS-15Meg	Br.-Grn.-Blue	1st AF Grid
20	470KΩ	½		BTS-470K	Yl.-Vi.-Yl.	Plate Load
21	1 Meg	½		BTS-1 Meg	Br.-Blk.-Grn.	Output Grid
22	150Ω	½		BW-½-150Ω	Br.-Grn.-Br.	Output Cathode
23	2200Ω	1		BTA-2200Ω	Red-Red-Red	Screen Dropping
24	15Ω	½		BW-½-15Ω	Br.-Grn.-Blk.	Filter
25	47Ω	1		BW-1-47Ω	Yl.-Vi.-Blk.	Line Dropping
26	330KΩ	½		BTS-330K	Or.-Or.-Yl.	Line Isolating

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		ARVIN PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
27	1990Ω	3.14Ω	162Ω	.4Ω	AC18258-1	A3876	T13842	6775	

R F COILS

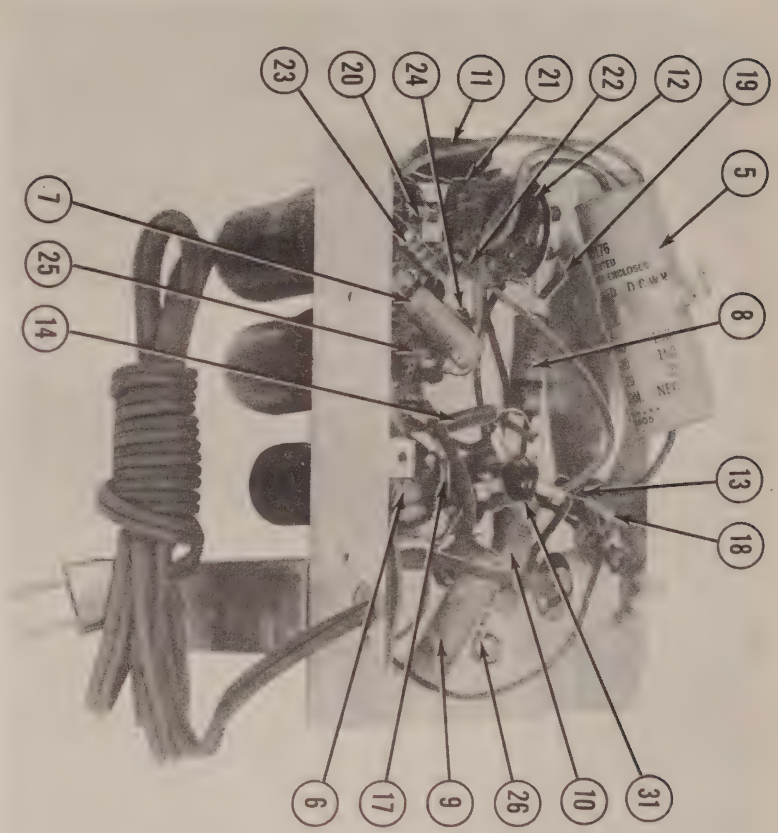
ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	ARVIN PART No.	MEISSNER PART No.	
30	Ant.	32Ω	3Ω	AC18255-1	‡	
31	Osc.	.5Ω	5.5Ω	AC18256-1	‡	
32	IF	16Ω	17Ω	AC18257-1	‡	

‡ Tentative specification

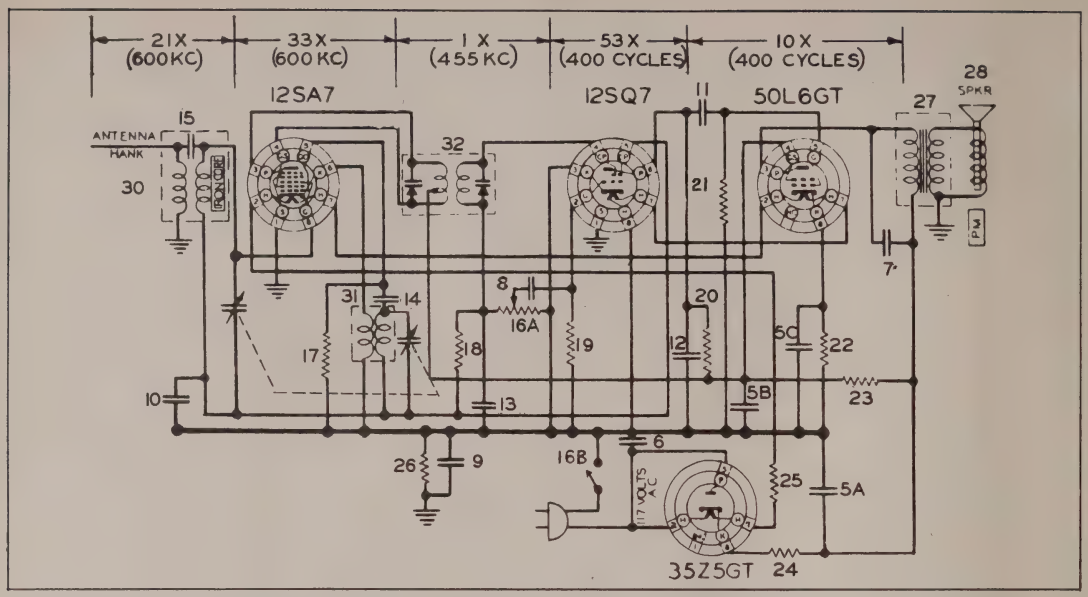
SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			ARVIN PART No.	JENSEN PART No.	UTAH PART No.	
28	FIELD F.M.	VC IMP. 3.14Ω	AC19198	ST540*	4PY*	* Corner of speaker lip must cut to clear cabinet.
29	CONE DIA. 4 in.	VC DIA. ½ in.	Not replaceable - Use complete speaker unit.			

CHASSIS—BOTTOM VIEW

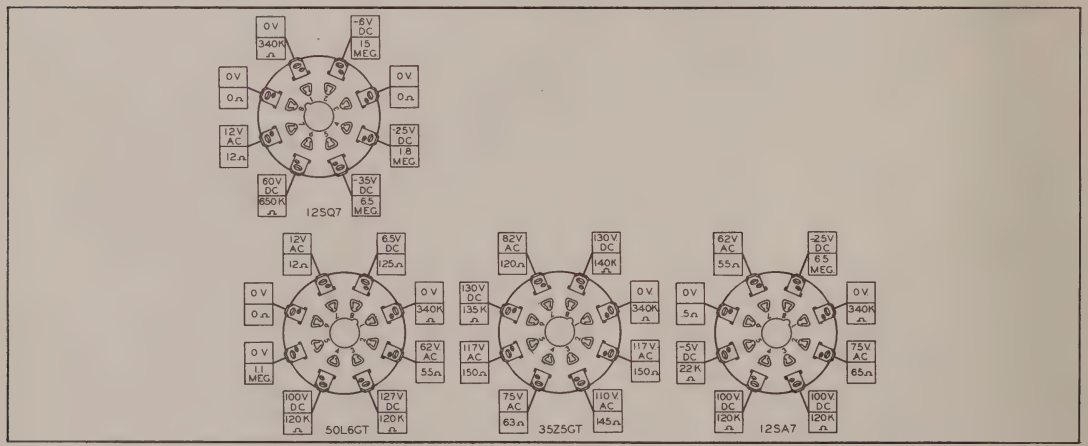


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical, AVC action is made inoperative and 3 Volt battery bias substituted.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt:
AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values make possible a variation of + 10% in voltage and resistance readings.

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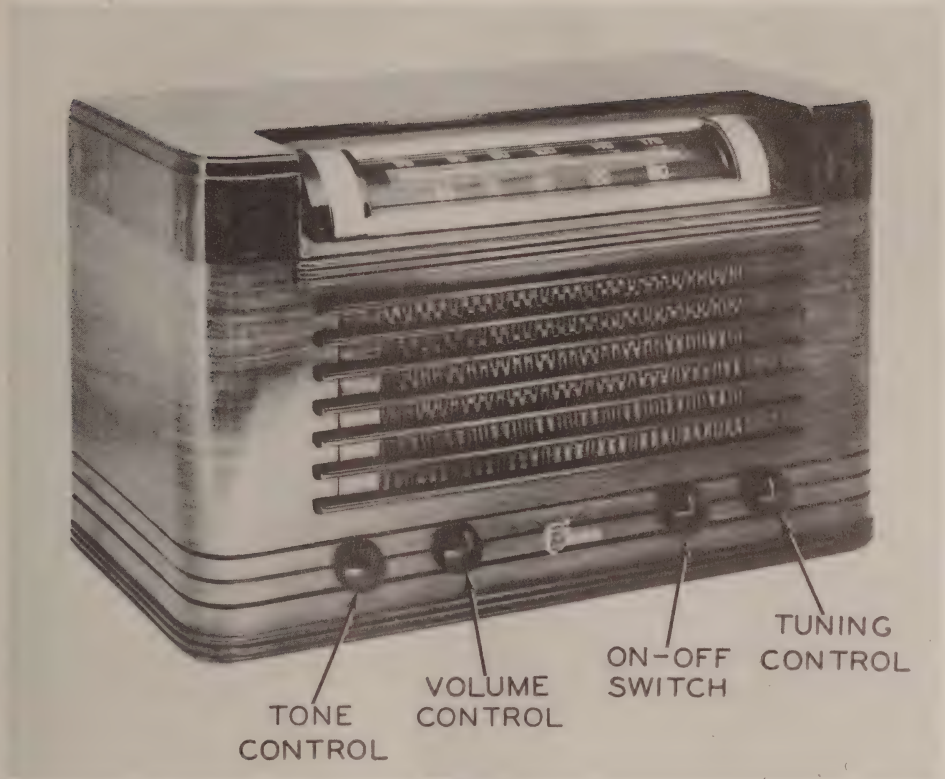
WARWICK-CLARION
C 104



CLARION C104

TRADE NAME	Clarion, Model C104
MANUFACTURER	Warwick Mfg. Corp. - 4640 West Harrison - Chicago, Illinois
TYPE SET	AC Superheterodyne, Self-Contained Loop Antenna
TUBES (Six)	Types 6SK7 RF, 6SA7 Mixer, 6SK7 IF, 6SQ7GT Det. & Audio, 6K6GT Power Output, 5Y3GT Rectifier
POWER SUPPLY	117 Volts AC - .465 Amperes
TUNING RANGE	**BROADCAST** 540 - 1725 KC **SHORT WAVE**

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	Through dummy to 6SA7 Grid. Ground lead to chassis.	455 KC	Fully open	Across voice coil	A1,A2 A3,A4	Adjust for maximum reading.
.00025 MFD.	Antenna terminal on loop through dummy. Gnd. lead to chassis.	1725 KC	"	"	A5	Adjust for max. reading. Coupling link position for external antenna use. (Between 2nd & 3rd screws from left, facing rear of receiver.)
.00025 MFD.	"	1500 KC	Set for generator signal	"	A6	" "
	Connect to loop of few turns placed near receiver loop.	1500 KC	"	"	A7	Adjust for max. reading. Coupling link position for loop use. (Between 1st & 2nd screws from left, facing rear of receiver.)
.00025 MFD.	Antenna terminal on loop through dummy. Gnd. lead to chassis.	1500 KC	"	"	A8	Adjust for max. reading. Coupling link position for external antenna use. (Between 2nd & 3rd screws from left, facing rear of receiver.)

Volume control at maximum for all adjustments. Use minimum output from signal generator giving accurate output readings.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: CLARION PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF. Amp.	6SK7	6SK7	8N	
2	Mixer	6SA7	6SA7	8R	
3	IF Amp.	6SK7	6SK7	8N	
4	Det.-AVC.-Audio	6SQ7GT	6SQ7GT	8Q	
5	Power Output	6K6GT	6K6GT	7S	
6	Rectifier	5Y3GT	5Y3GT	5T	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: CLARION PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7	16	450	A18-274	TC 74	M-16-450	UT-16	PRS450-16	BR 1645	Input Filter
8	16	450	A18-279	TC 74	M-16-450	UT-16	PRS450-16	BR 1645	Output Filter
9	20	25	A18-278	TC-26	M-25-25	TA-25	PRS25-25	BR 202A	Pwr. Amp. Cath. Bypass
10	.005	600		TP408	S-6-005	TC-25	684-.005	DT 6D5	Pwr. Amp. Plate Bypass
11	.01	400		TP421	S-4-01	TC-11	484-.01	DT 4S1	Audio Coupling
12	.01	400		TP421	S-4-01	TC-11	484-.01	DT 4S1	Tone Control
13	.01	400		TP421	S-4-01	TC-11	484-.01	DT 4S1	Audio Coupling
14	.05	200		TP426	S-4-05	TC-15	484-.05	DT 4S5	AVC Filter
15	.05	400		TP426	S-4-05	TC-15	484-.05	DT 4S5	IF Screen Bypass
16	.05	200		TP426	S-4-05	TC-15	484-.05	DT 4S5	IF Cath Bypass
17	.05	400		TP426	S-4-05	TC-15	484-.05	DT 4S5	Mixer Anode Grid
18	.05	400		TP426	S-4-05	TC-15	484-.05	Dt 4S5	RF Screen Bypass
19	.05	200		TP426	S-4-05	TC-15	484-.05	DT 4S5	RF Cath Bypass
20	.05	200		TP426	S-4-05	TC-15	484-.05	DT 4S5	AVC Filter
21	250	500		MC240	MO.5-325	1FM-325	1468.00025	5W5T25	Audio Plate Bypass
22	50	500		MC225	MO.5-45	1FM-45	1468.00005	5W5Q5	Osc. Grid Cond.
23	50	500		MC225	MO.5-45	1FM-45	1468.00005	5W5Q5	Fixed Tuning RF Plate

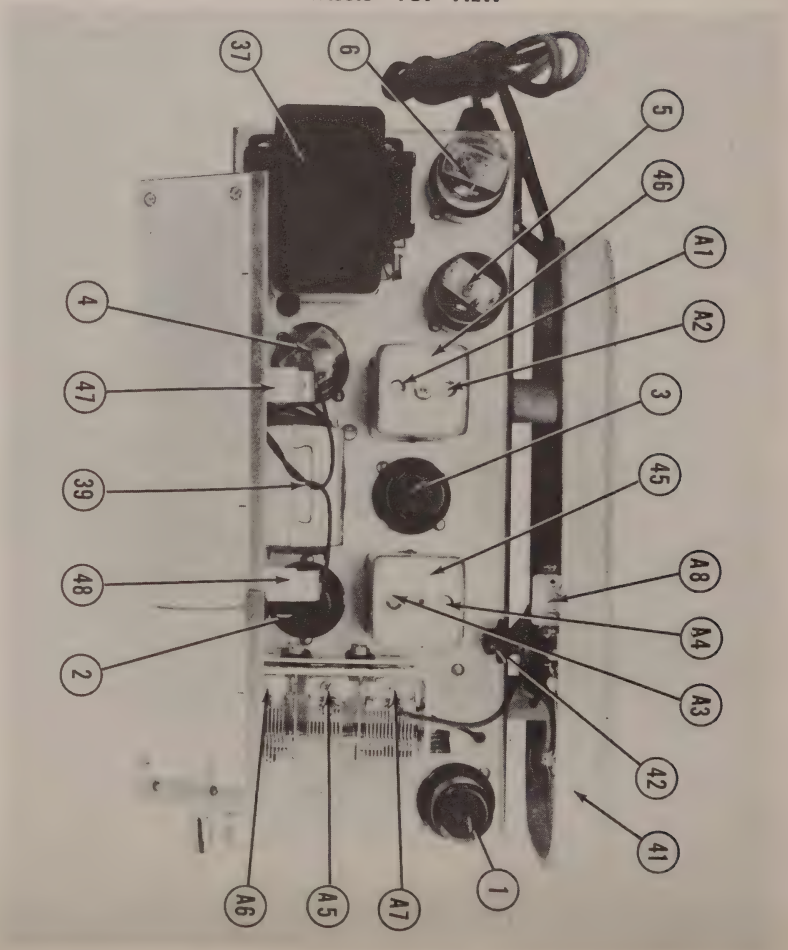
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CLARION PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
24(A)	500KΩ	1	A24-169	MK401	D13-133	AM-60-Z	Volume Control
(B)	Shaft				E	KSS-3	Attach to 24(A) per instr.
25(A)	2Meg	1	A26-123	MK403	D13-139	AM-66-Z	Tone Control
(B)	Shaft				E	KSS-3	Attach to 25(A) per instr.

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CLARION PART No.	IRC PART No.	IDENTIFICATION CODES	
26	220KΩ	1/3		BTS-220K	Red-Red-Yl.	AVC Network
27	150Ω	1/3		BT-½-150Ω	Br.-Grn.-Br.	RF Cathode Bias
28	27KΩ	1		BTA-27K	Red-Vi.-Or.	Screen Dropping
29	100KΩ	½		BTS-100K	Br.-Blk.-Yl.	
30	22KΩ	1/3		BTS-22K	Red-Red-Or.	Osc. Grid
31	1000Ω	1/3		BTS-1000Ω	Br.-Blk.-Red	IF Grid
32	100KΩ	½		BTS-100K	Br.-Blk.-Yl.	Screen Dropping
33	200KΩ	1/3		BTS-200K	Red-Blk.-Yl.	Plate Load
34	10Meg	1/3		BTS-10Meg	Br.-Blk.-Blue	Audio Grid
35	500KΩ	1/3		BTS-500K	Grn.-Blk.-Yl.	Output Grid
36	500Ω	1		BTA-500Ω	Grn.-Blk.-Br.	Output Cathode Bias

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	CLARION PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.
37	117V. .465 amp.	590V. .059 amp.	4.9V. 1.8 amp.	6.25V. 1.88 amp.	C80-223	P6119	T13R20	Y660

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		CLARION PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
38	6900Ω	3.2&Ω	385Ω	.66Ω	A 80-222	A 3822	T13S42	7364	

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			CLARION PART No.	JENSEN PART No.	UTAH PART No.	
39	FIELD RES. 670Ω CONE DIA. 6 in.	VC IMP; 3.2&Ω VC DIA. 4 in.	B79-338	ST-567#	Q610#*	# Shunt Field Coil of replacement speaker with 2000Ω 5W resistor. Lip of Replacement speaker must be cut same as original so as to clear the controls. * Universal Transformer supplied with Utah Replacement Speaker.
40			Not replaceable - Use complete speaker unit			

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	CLARION PART No.	MEISSNER PART No.	
41	Ant. Loop	1.5Ω		B82-39	#	
42	Ant.	52Ω	2.5Ω	A10-445	#	
43	RF	60Ω	2Ω	A10-447	#	
44	Osc	.5Ω	5Ω	A10-446	#	
45	Input IF	17.5Ω	26Ω	B10-412	16-5712	
46	Output IF	18Ω	18Ω	B10-444	16-5714	See note A

Note A: Make following connections to low side of secondary: a 50 KΩ resistor in series with white lead from volume control, a 1 Megohm resistor in series with black lead from diode plate (pin 4 of 6SQ7GT), a 250 mmfd. capacitor in series with brown lead going to ground.

DIAL LIGHT

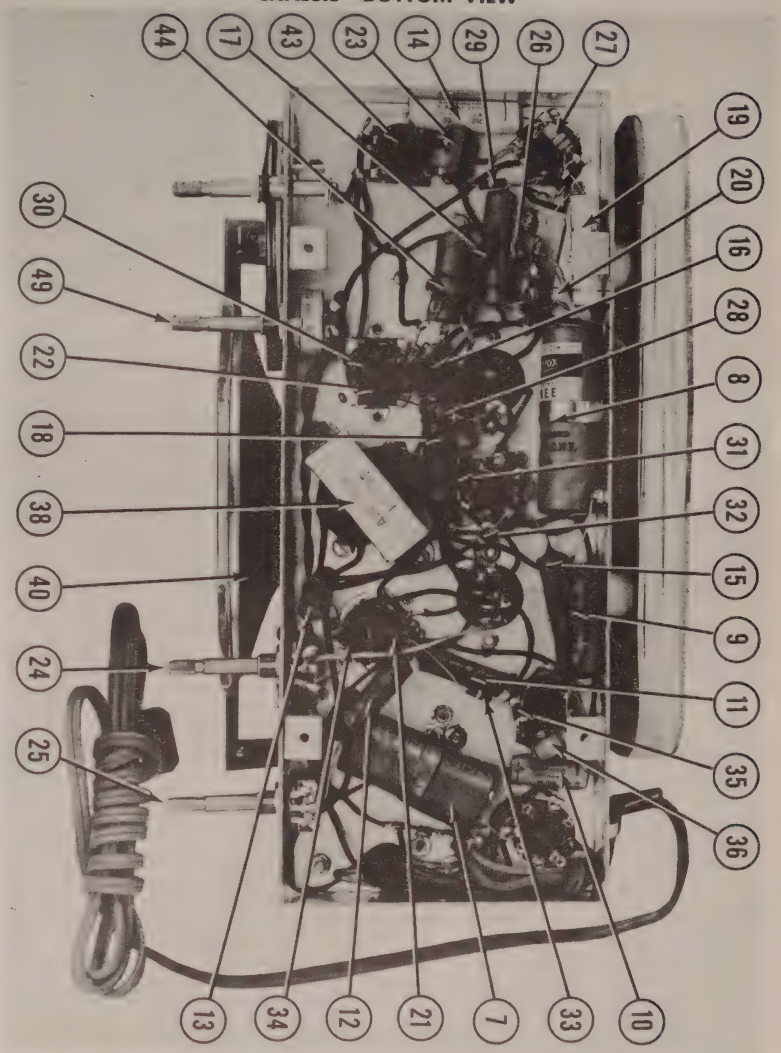
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					CLARION PART No.		
47	Min. Bayonet	6.8	0.15	Brown			Mazda 47
48	Min. Bayonet	6.8	0.15	Brown			

SWITCH

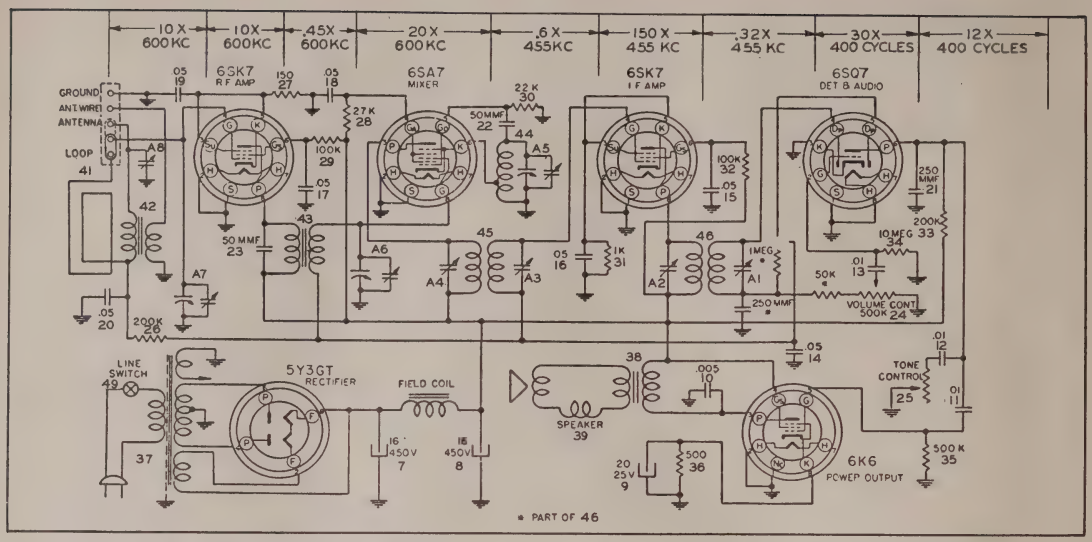
ITEM NO.	CLARION PART NO.	DESCRIPTION
49	A69-169	SPST on-off switch

Tentative Specification.

CHASSIS—BOTTOM VIEW

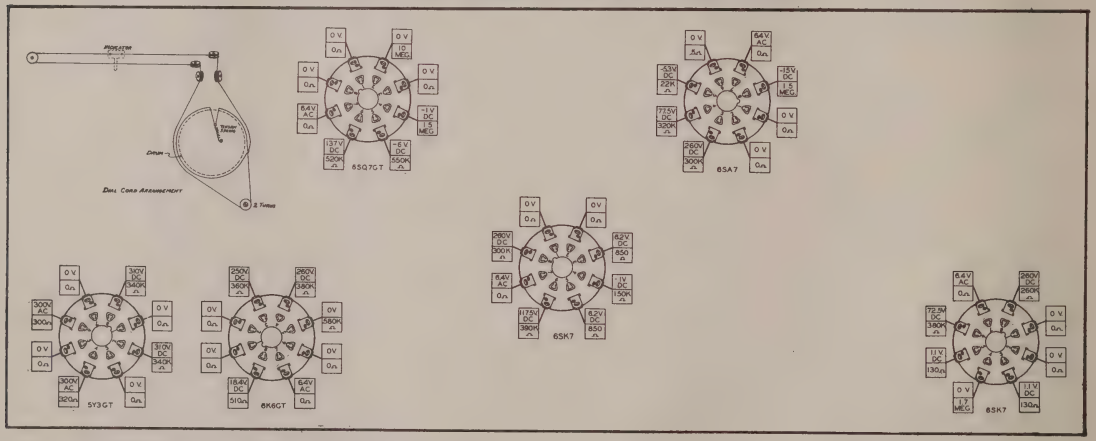


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3 volt battery bias is substituted for measurements.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative (chassis).

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values make possible a variation of ± 10% in voltage and resistance readings.

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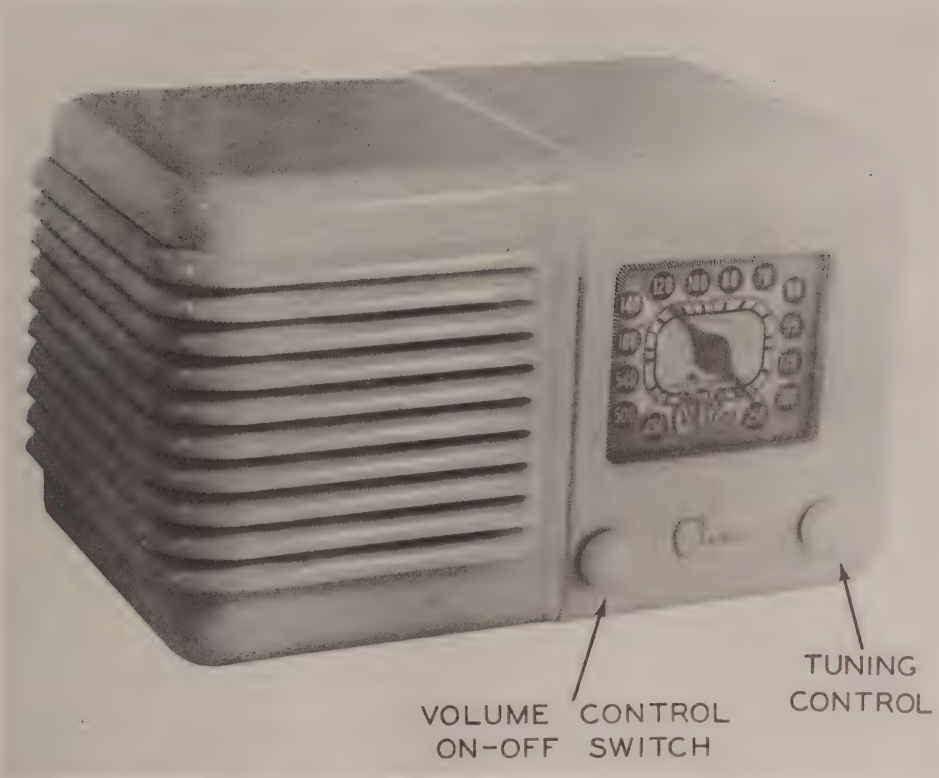
CLARION
MODEL C 100



CLARION
MODEL C 100

CLARION MODEL C100

TRADE NAME	Clarion, Model C100
MANUFACTURER	Warwick Mfg. Corp. - 4640 West Harrison - Chicago, Illinois
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (FIVE)	Types 12SA7 Osc.-Converter, 12SK7 IF Amplifier, 12SQ7 Det.-AVC-Audio, 50L6GT Power Output, 35Z5GT Rectifier
POWER SUPPLY	117 Volts AC-DC Rating .260 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	550 - 1630 KC. SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1MFD	Variable condenser side of loop and ground	455KC	High end of band	Across voice coil	A1,A2 A3,A4	Adjust for maximum reading. Use isolation transformer if available. If not, isolating capacitor must be connected between generator ground lead and receiver common negative Also decrease dummy antenna to .001 MFD to prevent excessive hum modulation.
.00025	External antenna and ground posts	1630KC	Fully open. (Min. cap.)	"	A5	Adjust for maximum reading
"	" "	1400KC	1400KC	"	A6	" " " "

Volume control at maximum for all adjustments and minimum output from signal generator allowing readable output.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: CLARION PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Osc.-Mod.	12SA7	12SA7	8R	
2	IF Amp.	12SK7	12SK7	8N	
3	Avc.-Det.-Audio	12SQ7	12SQ7	8Q	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: CLARION PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6(A)	30	150	18-286	2N513	M-30-150	UT-301	PRS-15-40-40	EZ3315	Filter - Yellow
(B)	30	150			M-30-150	UT-301			" - Red
7	.05	400		TP426	S-4-05	TC-15	484-.05	DT4S5	Line Bypass
8	.01	400		TP42L	S-4-01	TC-11	484-.01	DT4S1	Pwr. Amp. Plate
9	.01	400		TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
10	.004	600		TP407	S-6-004	TC-24	684-.004	DT6D4	Audio Coupling
11	.05	200		TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
12	250	500		MC240	MO.5-325	1FM-325	1468-.00025	5W5T25	Audio Plate Bypass
13	100	500		MC235	MO.5-31	1FM-31	1468-.0001	5W5T1	RF Bypass - Vol. Cont.
14	50	500		MCE225	MOS.5-45	MS-45	1469-.00005	5R5Q5	Osc. Grid Cond.

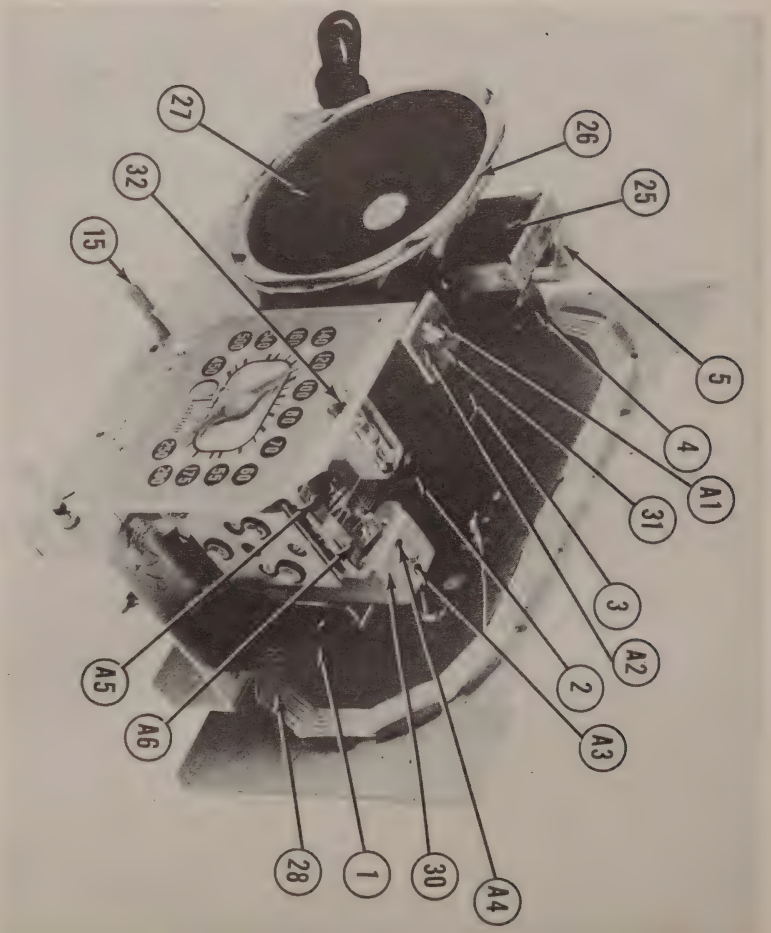
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CLARION PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
15(A)	500KΩ	1	24-153	MK401	D13-133	AM-60-Z	Volume Control
(B)	Shaft		Not req.		E	KSS-3	Attach to 15A per instr.
(C)	Switch		" "	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CLARION PART No.	IRC PART No.	IDENTIFICATION CODES
16	22KΩ	½		BTS-22K	Red-Red-Or. Osc. Grid.
17	2.2Meg.	½		BTS-2.2Meg.	Red-Red-Grn. AVC Network
18	1OMeg.	½		BTS-1OMeg.	Br.-Blk.-Blue 1st AF Grid
19	220KΩ	½		BTS-220K	Red-Red-Yl. Plate Load
20	470KΩ	½		BTS-470K	Yl.-Vi.-Yl. Output Grid
21	120Ω	½		BW-½-120Ω	Br.-Red-Br. Output Cathode
22	10KΩ	1		BTA-10K	Br.-Blk.-Or. Bleeder
23	1000Ω	½		BTS-1000Ω	Br.-Blk.-Red Filter
24	27Ω	½		BW-½-27Ω	Red-Vi.-Blk. Rectifier Ballast

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		CLARION	STANCOR	THORDAR'N	UTAH	
	PRI.	SEC.	PRI.	SEC.	PART No.	PART No.	PART No.	PART No.	
25	2050Ω	3.1Ω	142Ω	.6Ω	80-224	A3876	T16842	8775	

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			CLARION PART No.	JENSEN PART No.	UTAH PART No.	
26	FIELD P.M.	VC IMP. 3.1Ω	79-339 or 79-307A	ST443*	5PY*	*Mounting bracket must be fabricated to bring speaker position to that of original. Speaker frame must be cut to clear inside of cabinet.
27	CONE DIA. 4½ in.	VC DIA. ½ in.	NOT REPLACEABLE - USE COMPLETE SPEAKER UNIT.			

R F COILS

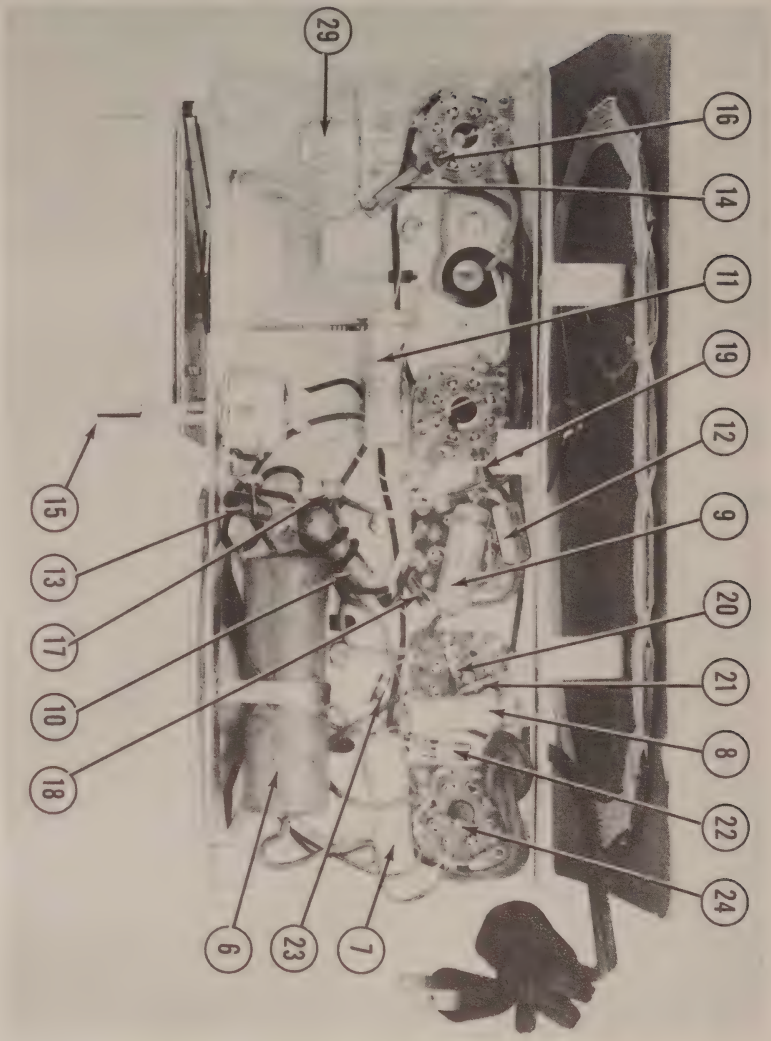
ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	CLARION PART No.	MEISSNER PART No.	
28	Ant.	0	1.5Ω	82-30	‡	
29	Osc.	.5Ω	3.5Ω	10-394	14-4034	
30	Input IF	32Ω	32Ω	10-369	16-6658	
31	Output IF	30Ω	31Ω	10-370	16-6660	

DIAL LIGHT

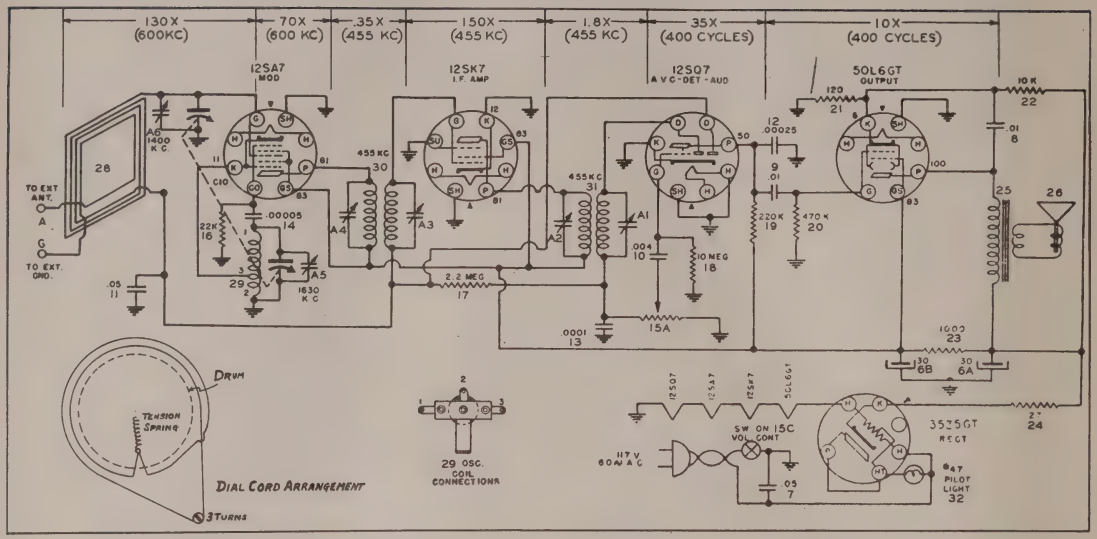
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					CLARION PART No.		
32	Bayonet	6-8	0.15	Brown			Mazda 47

‡ Tentative specification

CHASSIS—BOTTOM VIEW



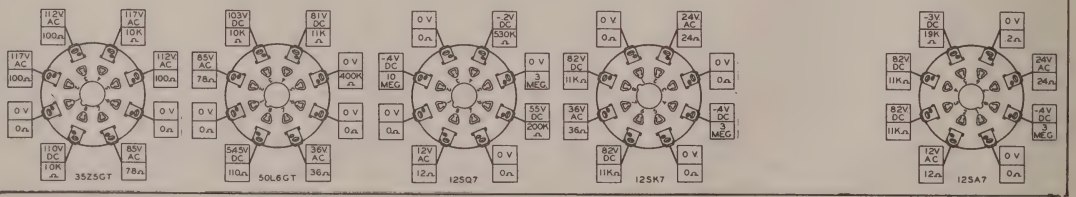
SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3 volt battery bias is substituted for measurements.

VOLTAGE AND RESISTANCE ANALYSIS CHART

1 - DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.
2 - Socket connections are shown as bottom views.
3 - Measured values are from socket pin to common negative.
4 - Line voltage maintained at 117 volts for voltage readings.
5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.



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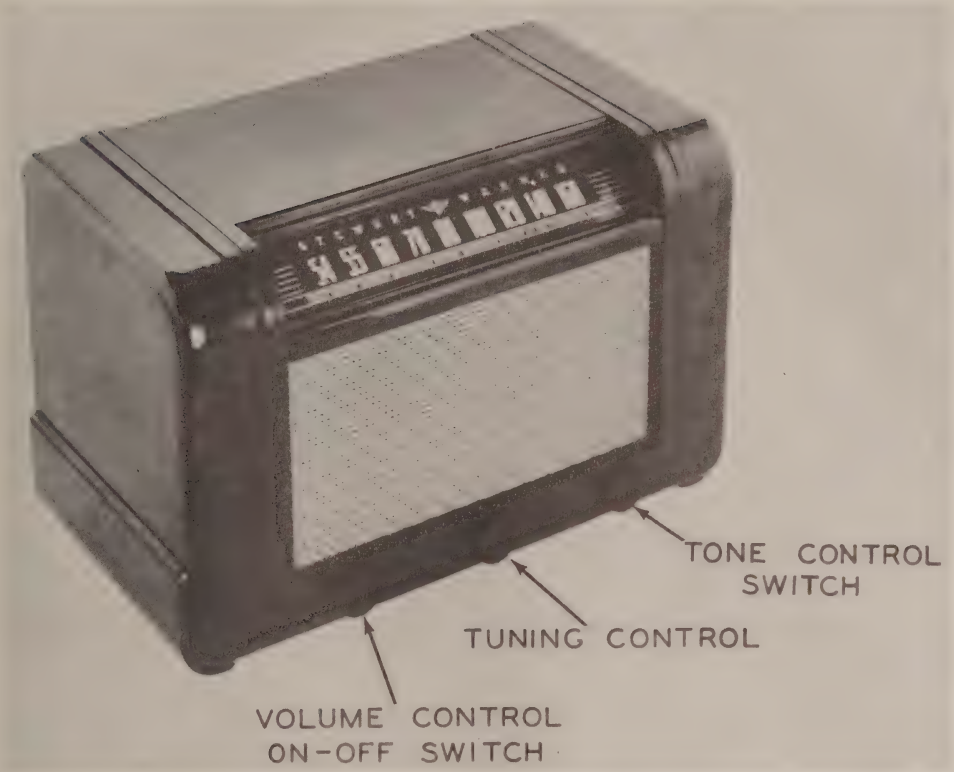
STEWART-WARNER
MODELS 61T16, 61T26
CHASSIS 9022A, 9022B



STEWART-WARNER
MODELS 61T16, 61T26
CHASSIS 9022A, 9022B

STEWART-WARNER MODEL 61T16

TRADE NAME	Stewart Warner, Models 61T16 (Chassis 9022A), and 61T26 (Chassis 9022B)
MANUFACTURER	Stewart Warner Corporation - 1826 Diversey Parkway - Chicago, Illinois
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (SIX)	Types 12SK7 RF, 12SA7 1st Detector-Oscillator, 12SF7 IF-2nd Detector-AVC, 12SK7 1st AF, 35L6GT Power Output, 35Z5GT Rectifier
POWER SUPPLY	
TUNING RANGE—BROADCAST	540-1600 KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1MFD	Ungrounded terminal of trimmer A6	455KC	Any point of no interfering signal	Across voice coil.	A1,A2, A3,A4	Adjust for maximum output and then repeat adjusts.
300* MMFD	External ant. clip on loop	1600KC	1600KC	"	A5	Adjust for maximum output.
"	"	"	"	"	A6,A7	" " " "
"	"	1400KC	Tune to 1400 KC signal	"	44,45	Adjust position of slugs in coils for maximum output.
"	"	1600KC	Tune to 1600 KC signal	"	A6,A7	Recheck adjustment for maximum output.

Remove chassis and loop from cabinet and solder approximately 8" of wire (insulated) to any B- connection. Replace chassis and loop in cabinet or place them in position as they will be in cabinet. Place lead soldered to B- out under back of chassis. To position dial pointer turn tuning control as far clockwise as it will go and dial pointer should be at 1600KC mark on scale. If not release and adjust. Use isolation transformer if available. If not, isolating capacitor should be connected between signal generator ground lead and B- lead to prevent possible damage to test equipment and decrease dummy ant. to .001 MFD to prevent excessive hum modulation. Turn volume control to maximum volume position and keep signal generator output low as possible. After adjusting slugs on 44 and 45 apply dab of speaker cement at top of each core stem to prevent movement.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: STEWART-WARNER PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF	12SK7	12SK7	8N	
2	1st Det.-Osc.	12SA7	12SA7	8R	
3	IF 2nd Det.-AVC	12SF7	12SF7	7AZ	
4	1st Audio	12SK7	12SK7	8N	
5	Power Output	35L6GT	35L6GT	7AC	
6	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: STEWART-WARNER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7(A)	40	150	502256	FP354	DY3X20-150	EL-24	AF444D	UP4CJ1	Filter See Note #1
(B)	20	150							"
8	.2	400	502158	TP429	S-4-2	TC-2	484-.2	DT4P2	Line Isolating
9	.05	400	502157	TP426	S-4-05	TC-15	484-.05	DT4S5	Line Filter
10	.01	400	502151	TP421	S-4-01	TC-11	484-.01	DT4S1	Pwr.Amp.Plate
11	.004	400	502156	TP407	S-6-004	TC-24	484-.004	DT6D4	Audio Coupling
12	.02	400	502152	TP423	S-4-02	TC-12	484-.02	DT4S2	Feedback
13	.05	200	502153	TP426	S-4-05	TC-15	484-.05	DT4S5	Audio Plate Decoupling
14	.002	400	502543	TP405	S-6-002	TC-22	484-.002	DT6D2	Audio Coupling
15	.0008	400	502470	MC451	MO.3-38	TC-21	1468-.00075	1W5T8	Tone Control
16	.1	200	502155	TP428	S-4-1	TC-1	484-.1	DT4P1	AVC Filter
17	110	600	502160	MC235	MO.5-31	1FM-31	1468-.0001	5W5T1	Audio Plate Bypass
18	110	600	502160	MC235	MO.5-31	1FM-31	1468-.0001	5W5T1	RF Filter
19	50	600	502159	MC225	MO.5-45	1FM-45	1468-.00005	5W5Q5	Osc. Grid Cond.
20	260	500	502271	MC240	MO.5-325	1FM-325	1468-.00025	5W5T25	RF Coupling
21	1000	500	502165	MC1455	MW.5-21	MS-21	1467-.001	2R5D1	AVC Filter

Installation Note #1 - For Mallory, Solar, Aerovox and Cornell-Dubilier replacement listings, parallel two sections to get desired capacity.

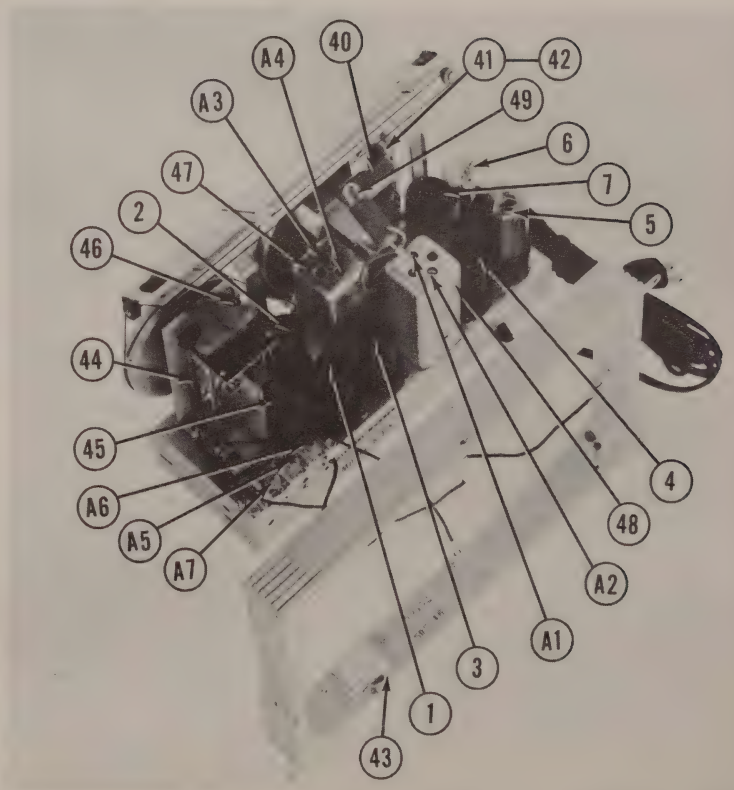
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: STEWART-WARNER PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
22(A)	500KΩ	1	502145	MK401	D13-133	AM-60-Z	Volume Control
(B)	Shaft		Not Req.		E	KSS-3	Attach to 22A per instr.
(C)	Switch		"	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: STEWART-WARNER PART No.	IRC PART No.	IDENTIFICATION CODES
23	390Ω	½	502140	BW-½-390Ω	Or.-Wh.-Br. RF Cathode
24	4700Ω	½	502291	BTS-4700Ω	Yl.-Vi.-Red Plate Load
25	470KΩ	½	502134	BTS-470K	Yl.-Vi.-Yl. AVC Network
26	22KΩ	½	502130	BTS-22K	Red-Red-Or. Osc. Grid
27	47Ω	½	502264	BW-½-47Ω	Yl.-Vi.-Blk. IF Cathode
28	3.3 Meg.	½	502269	BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
29	47KΩ	½	502131	BTS-47K	Yl.-Vi.-Or. Diode Load
30	10 Meg.	½	502136	BTS-10 Meg.	Br.-Blk.-Blue 1st AF Grid
31	2200Ω	½	502128	BTS-2200Ω	Red-Red-Red 1st AF Cathode
32	220KΩ	½	502133	BTS-220K	Red-Red-Yl. Plate Load
33	220KΩ	½	502133	BTS-220K	Red-Red-Yl. Decoupling Filter
34	2.2Meg.	½	502135	BTS-2.2Meg.	Red-Red-Grn. Screen Dropping
35	470KΩ	½	502134	BTS-470K	Yl.-Vi.-Yl. Output Grid
36	130Ω	½	502138	BW-½-130Ω	Br.-Or.-Br. Output Cathode
37	1500Ω	1	502469	BTA-1500Ω	Br.-Grn.-Red Filter
38	220KΩ	½	502133	BTS-220K	Red-Red-Yl. Line Isolating
39	33Ω	½	502574	BW-½-33Ω	Or.-Or.-Blk. Ballast

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		STEWART-WARNER PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
40	2710Ω	4Ω	242Ω	.8Ω	502213 502904 504244	Note 2	Note 2	Note 2	Use with R-502998 " " A-502998 " " W-502998
	Note 2 - Primary winding has tap for hum-buck purpose. No listing available.								

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			STEWART-WARNER PART No.	JENSEN PART No.	UTAH PART No.	
	FIELD RES.	VC IMP.				
41	FM	14Ω	R-502998 A-502998 W-502998	ST-443* " "	5PY* " "	*Original speaker has special bracket. In using ST-443 or 5PY a similar bracket must be made to duplicate speaker positioning.
	CONE DIA.	VC DIA.				
42	5"	1"	502214 502903 504245	None " "	None " "	Use on R-502998 " " A-502998 " " W-502998

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	STEWART-WARNER PART No.	MEISSNER PART No.	
43	Ant. Loop	0		502246		
44	Ant.	1Ω	7Ω	504210		See Note #3
45	RF .	6Ω		504214		" " "
46	Osc.	5Ω	0	504212		" " "
47	Input IF	20Ω	20Ω	502102	16-5712	
48	Output IF	19Ω	19Ω	502103	16-5714	
	Note 3 - Items 44,45 and 46 are obtainable as a complete tuner assembly Part No. 504096.					

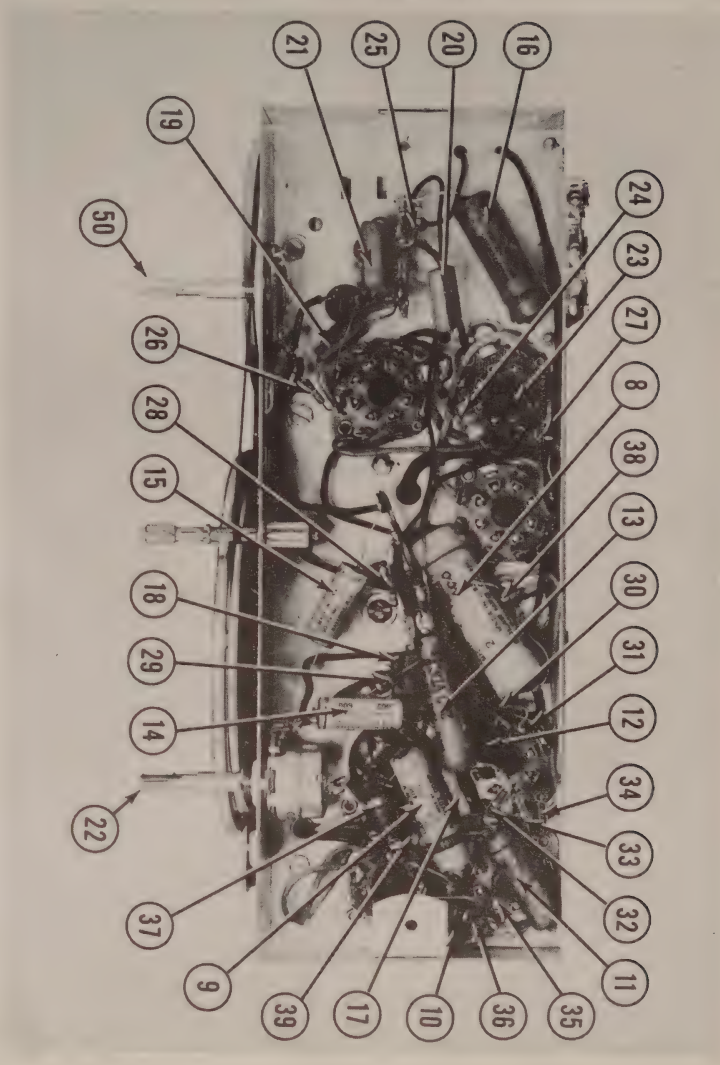
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					STEWART-WARNER PART No.		
49	Min. Bayonet	6-8	.15	Brown	502473		Mazda #47

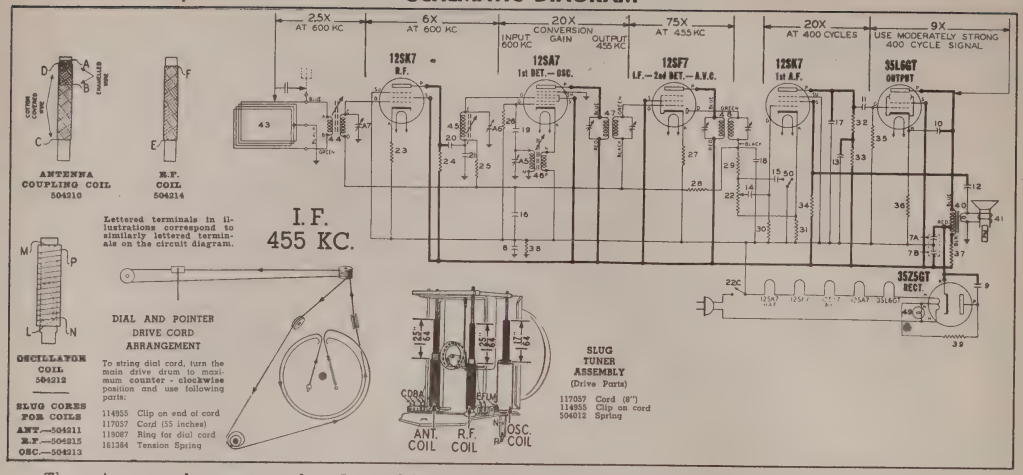
MISCELLANEOUS PARTS

ITEM NO.	PART NAME	STEWART-WARNER PART NO.	DESCRIPTION
A5	Osc. Trimmer	504086	20-270 MMFD.
A6	RF Trimmer		" "
A7	Ant. Trimmer		10-160 MMFD.
50	Tone Switch	500246	Single Pole Double Throw
	Cabinet	502244	61T16-Mahogany
	"	500384	61T26-Ivory
	Knob(2 Used)	502551	61T16-Mahogany
	" "	502552	61T26-Ivory
	Dial Pointer	502367	
	Dial Scale	504142	Glass
	Spring	504102	Tuning Slug Drive Cord
	Cab. Back	502185	

CHASSIS—BOTTOM VIEW



SCHEMATIC DIAGRAM


2.5X AT 600 KC
6X AT 600 KC
20X CONVERSION GAIN INPUT 600 KC OUTPUT 455 KC
75X AT 455 KC
20X AT 400 CYCLES
9X USE MODERATELY STRONG 400 CYCLE SIGNAL
12SK7 R.F.
12SA7 1st DET.—OSC.
12SF7 I.F.—2nd DET.—A.V.C.
12SK7 1st A.F.
35L6GT OUTPUT
35Z5GT RECT.
ANTENNA COUPLING COIL 504210
R.F. COIL 504214
I.F. 455 KC.
Lettered terminals in illustrations correspond to similarly lettered terminals on the circuit diagram.
OSCILLATOR COIL 504212
SLUG CORES FOR COILS
ANT.—504211
R.F.—504215
OSC.—504213
DIAL AND POINTER DRIVE CORD ARRANGEMENT
To string dial cord, turn the main drive drum to maximum counter - clockwise position and use following parts:
114955 Clip on end of cord
117057 Cord (55 inches)
113087 Ring for dial cord
161384 Tension Spring
SLUG TUNER ASSEMBLY (Drive Parts)
117057 Cord (8")
114955 Clip on cord
504012 Spring
ANT. COIL
R.F. COIL
OSC. COIL

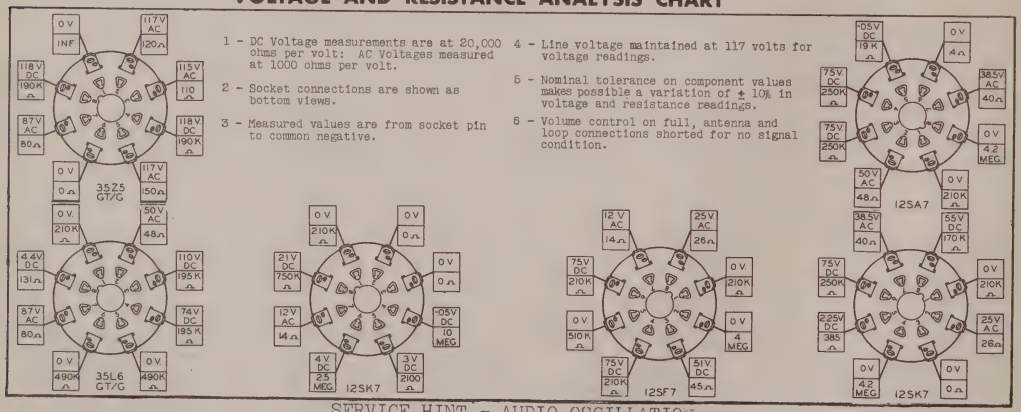
The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. The following precautions should be observed in making stage gain measurements for this set.

1 - Use the 600KC signal with 400-cycle modulation connected as shown. (Use nearby frequency if local station interferes.)

2 - For RF and IF measurements connect negative terminal of 3-volt battery to AVC lead and positive terminal to B-. IMPORTANT- Disconnect battery when measuring audio stage gains.

3 - Be sure receiver is carefully tuned to generator signal. (Use weak signal for sharp tuning.)

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control on full, antenna and loop connections shorted for no signal condition.

SERVICE HINT - AUDIO OSCILLATION

The audio system of this receiver utilizes a two stage type of inverse feed-back arrangement and, should it ever be necessary to replace the speaker or output transformer, it is important to maintain a definite phase relationship in the feed-back circuit. If the connections to the output transformer are reversed or if the feed-back connection is made to the wrong side of the output transformer secondary, the system will become regenerative instead of degenerative. Under those conditions audio oscillation may result. If that occurs, oscillation may be prevented by reversing the connections to the secondary of the output transformer.

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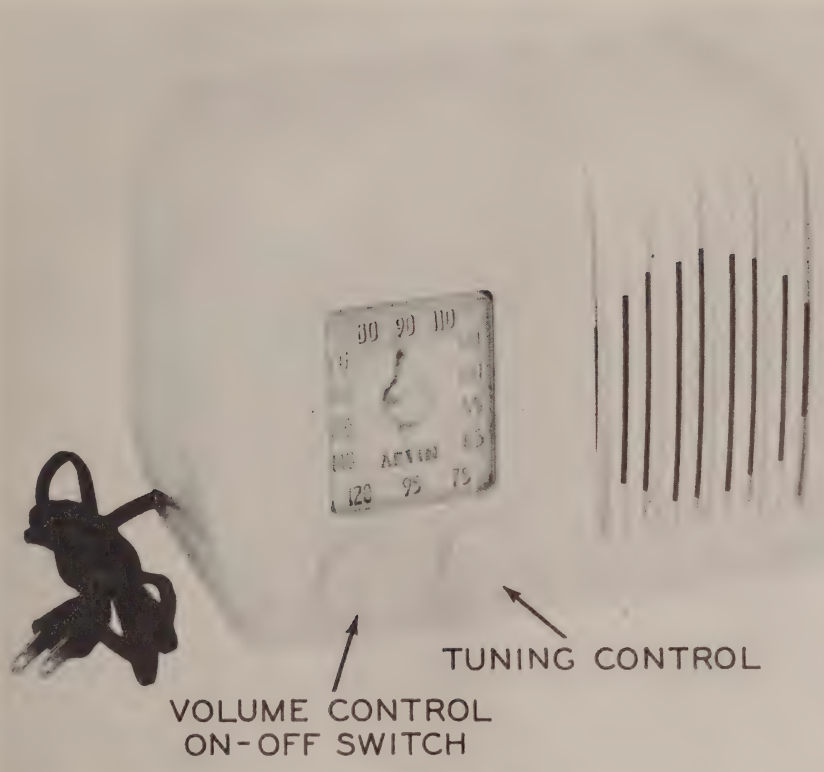
ARVIN
MODELS 544, 544A



ARVIN MODEL 544A

TRADE NAME	Arvin, Models 544, 544A (Chassis RE-201)
MANUFACTURER	Noblitt-Sparks Industries Inc. - 13th St. & Big Four R.R. - Columbus, Indiana
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (FIVE)	Types 12SA7 Mixer, 12SK7 IF Amplifier, 12SQ7 Detector-AVC-1AF, 50L6GT Power Output, 35Z5GT Rectifier
POWER SUPPLY	117 Volts AC - DC
TUNING RANGE—BROADCAST	550-1700KC **SHORT WAVE**

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA *	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.05MFD	High side to grid of 12SA7 (pin 8). Low side to common negative.	455KC	Quiet part of band	Across voice coil	A1, A2, A3, A4,	Adjust for maximum output. Use isolation transformer if available. If not isolating capacitor must be used between signal generator ground lead and receiver common negative. Also decrease dummy ant. to .001 MFD to prevent excessive hum modulation.
50MMFD	High side to ant post. Low side to common neg.	1400KC	1400KC	"	A5	Adjust for maximum output.
"	"	"	"	"	A6	" " " "

Volume control at maximum volume and output from signal generator no higher than necessary to get readable output.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA ARVIN PART No.	REPLACEMENT DATA STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Mixer		12SA7	8R	
2	IF Amp.		12SK7	8N	
3	Det-AVC-1AF		12SQ7	8Q	
4	Power Output		50L6GT	7AC	
5	Rectifier		35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA ARVIN PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6(A)	40	150	A19136	3N533	M-40-150	UT-401	PRS-150-40	BR4015	Filter - Red
(B)	20	150			M-20-150	UT-201	PRS-150-20	BR2015	Filter - Blue
(C)	20	25			M-25-25	UA-25	PRS-25-25	BR202A	Filter - Green
7	.05	400		TP426	S-4-05	TC-15	484-.05	DT4S5	Line Bypass
8	.03	400		TP424	S-6-03	TC-13	484-.03	DT4S3	Pwr.Amp.Plate Bypass
9	.01	400		TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
10	.05	200		TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
11	.05	400		TP426	S-4-05	TC-15	484-.05	DT4S5	B+ Bypass
12	.01	400		TP421	S-4-01	TC-11	484-.01	DT4S1	Ant. Coupling
13	.05	400		TP426	S-4-05	TC-15	484-.05	DT4S5	Line Isolating
14	2000	500		MC457	MW.5-22	1FM-22	1467-.002	1W5D2	Audio Coupling
15	500	500		MC245	MO.5-35	1FM-35	1468-.0005	5W5T5	Audio Plate Bypass
16	500	500		MC245	MO.5-35	1FM-35	1468-.0005	5W5T5	RF Bypass-Vol.Cont.
17	50	500		MC225	MO.5-45	1FM-45	1468-.00005	5W5Q5	Osc. Grid Cond.

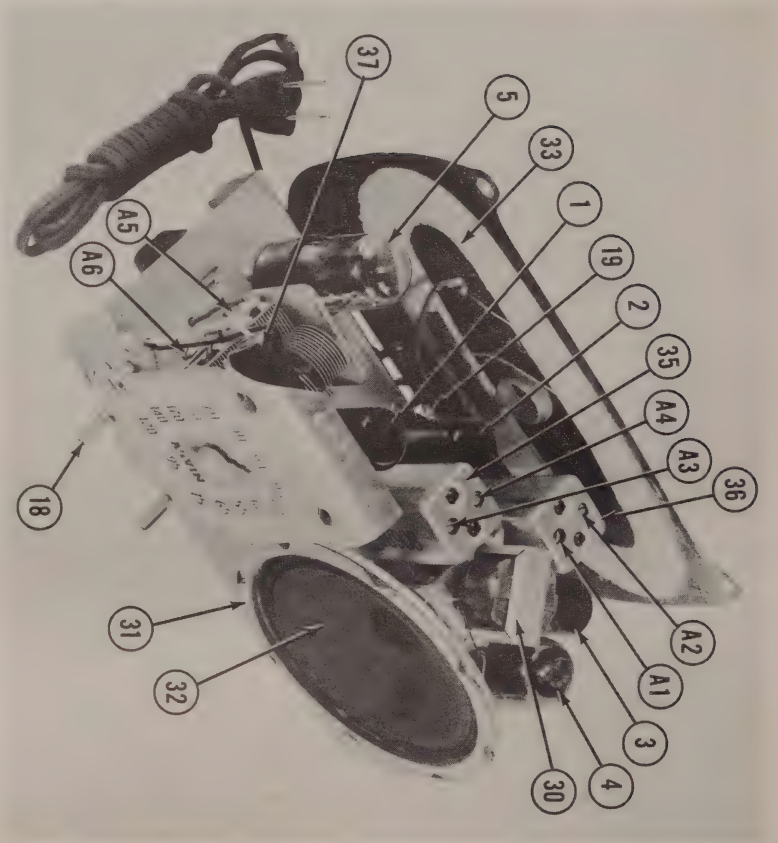
CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA ARVIN PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
18(A)	1 Meg	1	B17291	MK402	D13-137	AM-63-Z	Volume Control
(B)	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 18A per instr.
(C)	Switch		"	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA ARVIN PART No.	REPLACEMENT DATA IRC PART No.	IDENTIFICATION CODES
19	10KΩ	½		BTS-10K	Br.-Blk.-Or. Ant. Shunt
20	22KΩ	½		BTS-22K	Red-Red-Or. Conv. Grid
21	15 Meg.	½		BTS-15 Meg.	Br.-Grn.-Blue AVC Network
22	2.2 Meg.	½		BTS-2.2 Meg.	Red-Red-Grn. " "
23	4.7 Meg	½		BTS-4.7 Meg.	Yl.-Vi.-Grn. 1st AF Grid
24	470KΩ	½		BTS-470K	Yl.-Vi.-Yl. Plate Load
25	470KΩ	½		BTS-470K	Yl.-Vi.-Yl. Output Grid
26	150Ω	½		BW-½-150Ω	Br.-Grn.-Br. Output Cathode
27	330KΩ	½		BTS-330K	Or.-Or.-Yl. Line Isolating
28	1500Ω	1		BTA-1500Ω	Br.-Gr.-Red Filter
29	15Ω	½		BW-½-15Ω	Br.-Gr.-Blk. Filter

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		ARVIN	STANCOR	THORDAR'N	UTAH	
	PRI.	SEC.	PRI.	SEC.	PART No.	PART No.	PART No.	PART No.	
30	2200Ω	3.34Ω	162Ω	.4Ω	Part of AC19193	A3876	T17S42	8775	

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			ARVIN PART No.	JENSEN PART No.	UTAH PART No.	
	FIELD	VC IMP				
31	P.M.	3.34Ω	AC19193	ST443*	5PY*	* Mounting bracket must be fabricated to bring replacement to same position as original.
	CONE DIA.	VC DIA.				
32	4"	¾"	NOT REPLACEABLE - USE COMPLETE SPEAKER UNIT			

R F COILS

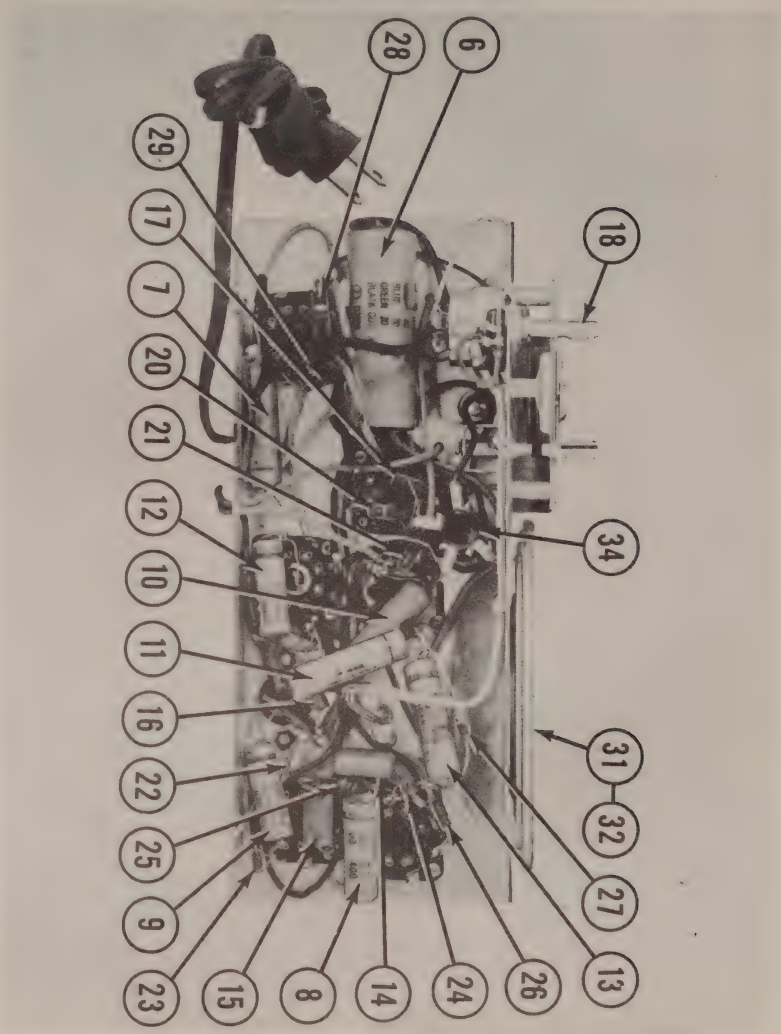
ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	ARVIN PART No.	MEISSNER PART No.	
33	Ant. Loop	0	1Ω	AC18645-1	#	
34	Osc.	.5Ω	6Ω	AC18646-1	#	
35	Input IF	16Ω	16Ω	AC18908-1	16-3658†	† Drill mounting holes 1¼" apart
36	Output IF	15Ω	15Ω	AC18909-1	16-6660†	" " " " "

DIAL LIGHT

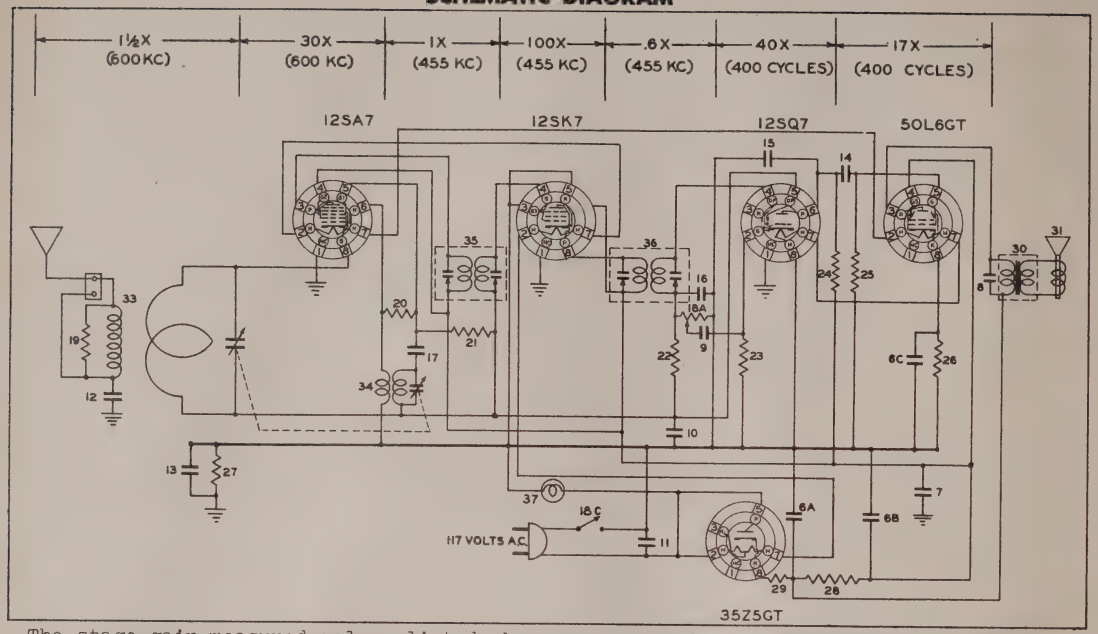
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					ARVIN PART No.		
37	Screw	110	.05		A19135		

Tentative Specification

CHASSIS—BOTTOM VIEW

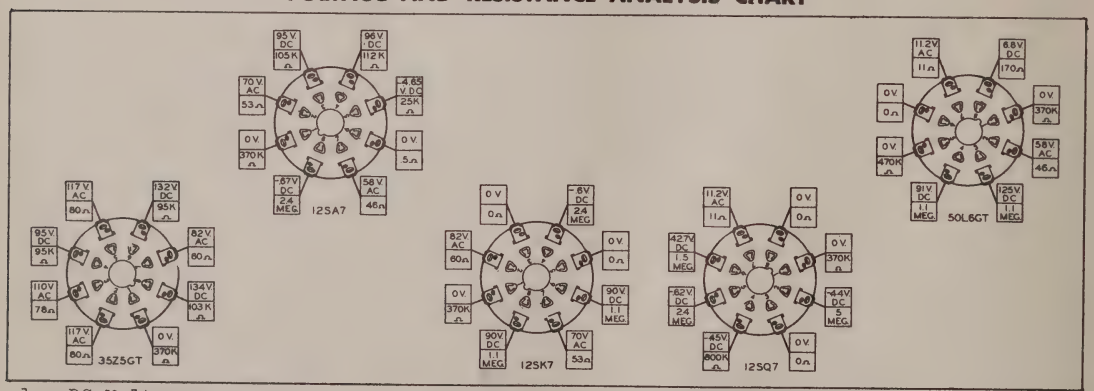


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3 volt battery bias is substituted for measurements.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values make possible a variation of + 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal for voltage measurements.

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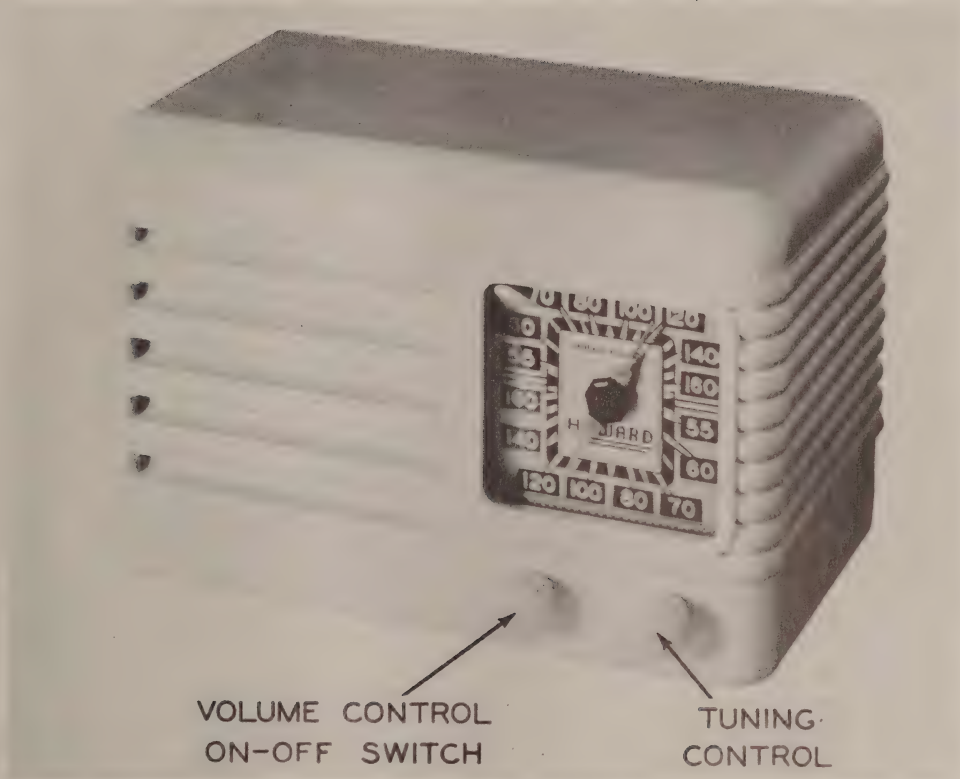


HOWARD 901A-I

TRADE NAME	Howard, Models 901A-E, 901A-H, 901A-I, 901A-M, 901A-W
MANUFACTURER	Howard Radio Co. - 1735 Belmont Avenue - Chicago 13, Illinois
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (FIVE)	Types 12SA7GT Mixer, 12SK7GT IF Amplifier, 12SQ7GT 2nd Det.-1AF, 50L6GT Power Output, 35Z5GT Rectifier
POWER SUPPLY	117 Volts AC - DC Rating .250 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	540-1600 KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.05MFD	High side to signal grid of 12SA7. Low side to common neg.	455 KC	Rotor fully open.	Across voice coil	A1,A2 A3,A4	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between signal generator ground lead and receiver common negative. Also decrease dummy ant. to .001 MFD to prevent excessive hum modulation.
	Loop	1400 KC	1400KC	"	A5	Adjust for maximum output. Connect signal generator to loop of few turns of wire and couple loosely to receiver loop by spacing.
	"	"	"	"	A6	Adjust for maximum output.

* Volume control at maximum volume and output from signal generator as low as possible for all adjustments.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA HOWARD PART No.	REPLACEMENT DATA STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Mixer	12SA7GT	12SA7GT	8R	
2	IF Amp.	12SK7GT	12SK7GT	8N	
3	2nd Det.-1AF	12SQ7GT	12SQ7GT	8Q	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA HOWARD PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6(A)	30	150	CE-0003	FP211	DY-2X30-150	EL-230	AF66D	UP3315	■ Filter
(B)	20	150							▲
7	25	25	CE-0005	TC26	M-25-25	TA-25	PRS25-25	BR252A	50L6 Cath.
8	.05	600		TP415	S-6-05	TC-15	684-.05	DT6S5	Line Bypass
9	.01	400	CP-0006	TP421	S-4-01	TC-11	484-.01	DT4S1	50L6 Plate
10	.01	400	CP-0006	TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
11	.006	400	CP-0005	TP409	S-6-006	TC-26	484-.006	DT6D6	Audio Coupling
12	.05	400	CP-0004	TP426	S-4-05	TC-15	484-.05	DT4S5	Decoupling
13	.05	400	CP-0004	TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
14	.05	400	CP-0004	TP426	S-4-05	TC-15	484-.05	DT4S5	12SK7 Cath.
15	.2	600	CP-0003	TP419	S-6-2	TC-2	684-.2	DT6P2	Line Isolating
16	300	500		MC241	MO.5-33	MS-33	1468-.0003	5W5T3	Audio Plate Bypass
17	300	500		MC241	MO.5-33	MS-33	1468-.0003	5W5T3	Vol. Cont. Bypass
18	300	500		MC241	MO.5-33	MS-33	1468-.0003	5W5T3	RF Bypass
19	50	500		MC225	MO.5-45	1FM-45	1468-.00005	5W5Q5	Osc. Grid Cond.

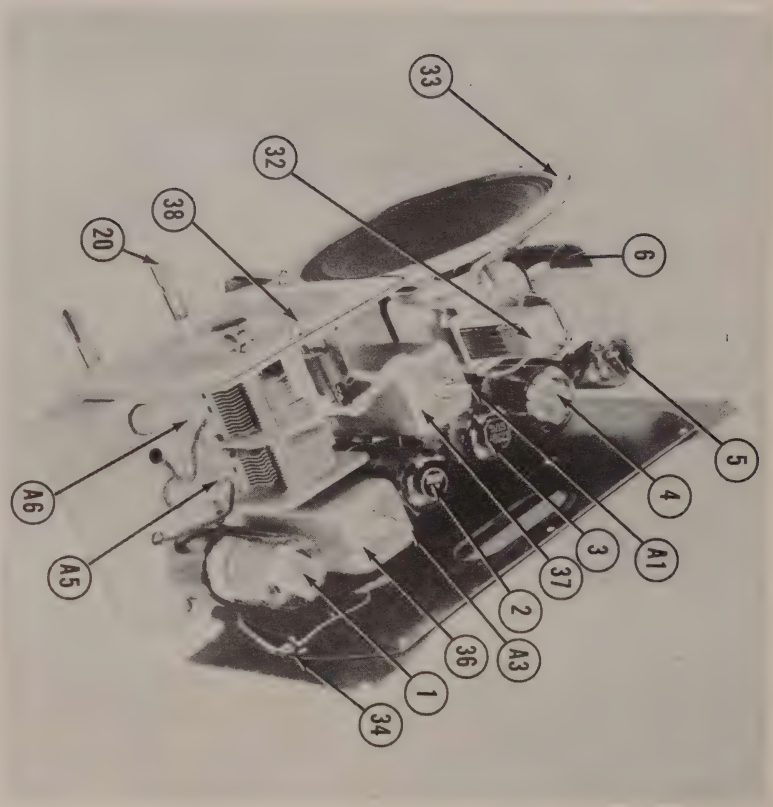
CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA HOWARD PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
20(A)	500K	1	VC-0001	MK401	DS13-133	AM-30-Z	Volume Control
(B)	Shaft		"	Not Req.	E	KSS-3	Attach to 20A per instr.
(C)	Switch		"	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA HOWARD PART No.	REPLACEMENT DATA IRC PART No.	IDENTIFICATION CODES
21	20KΩ	½		BTS-20K	Red-Blk.-Or. Osc. Grid
22	1700Ω	½		BTS-1700Ω	Br.-Vi.-Red IF Grid
23	470Ω	½		BTS-470Ω	Yl.-Vi.-Br. IF Cathode
24	2 Meg.	½		BTS-2 Meg.	Red-Blk.-Grn. AVC Network
25	20KΩ	½		BTS-20K	Red-Blk.-Or. Diode Load
26	3.3 Meg.	½		BTS-3.3 Meg.	Or.-Or.-Grn. AF Grid Load
27	220KΩ	½		BTS-220K	Red-Red-Yl. Plate Load
28	47KΩ	½		BTS-47K	Yl.-Vi.-Or. Decoupling
29	500KΩ	½		BTS-500K	Grn.-Blk.-Yl. Grid Load
30	150Ω	½		BW-½-150Ω	Br.-Grn.-Br. Output Cathode
31	2200Ω	1		BTA-2200Ω	Red-Red-Red Filter

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		HOWARD PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
32	1000Ω	3.93Ω	138Ω	.52Ω	TO-0002	A3865*	T14S82*	8775*	*Mounting method must be improvised.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			HOWARD PART No.	JENSEN PART No.	UTAH PART No.	
	FIELD	VC IMP.				
33	P.M.	3.93Ω	SK-0003	ST-443	5FY	
	CONE DIA.	VC DIA.				
	5"	5/8"	NOT REPLACEABLE - USE COMPLETE SPEAKER UNIT			

R F COILS

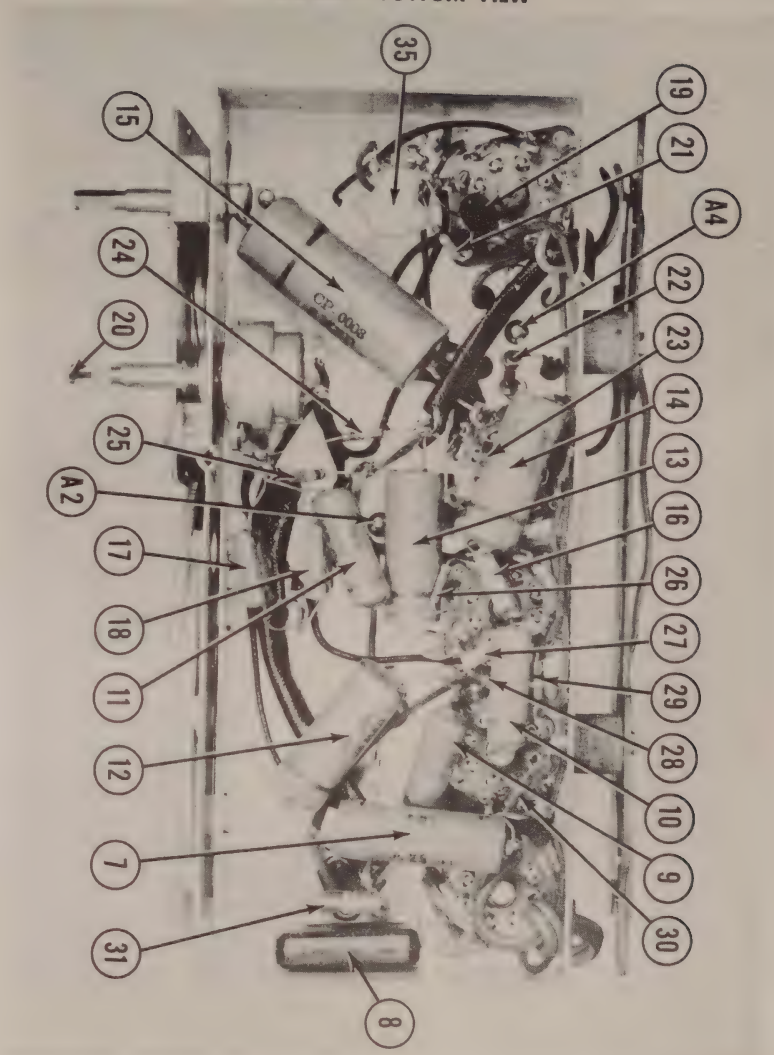
ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	HOWARD PART No.	MEISSNER PART No.	
34	Ant. Loop	0	1.75Ω	AN-0002	‡	
35	Osc.	.5Ω	2.5Ω	LO-0014	‡	
36	Input IF	22Ω	22Ω	LI-0006	16-6662	
37	Output IF	27Ω	27Ω	LI-0007	16-6663	

DIAL LIGHT

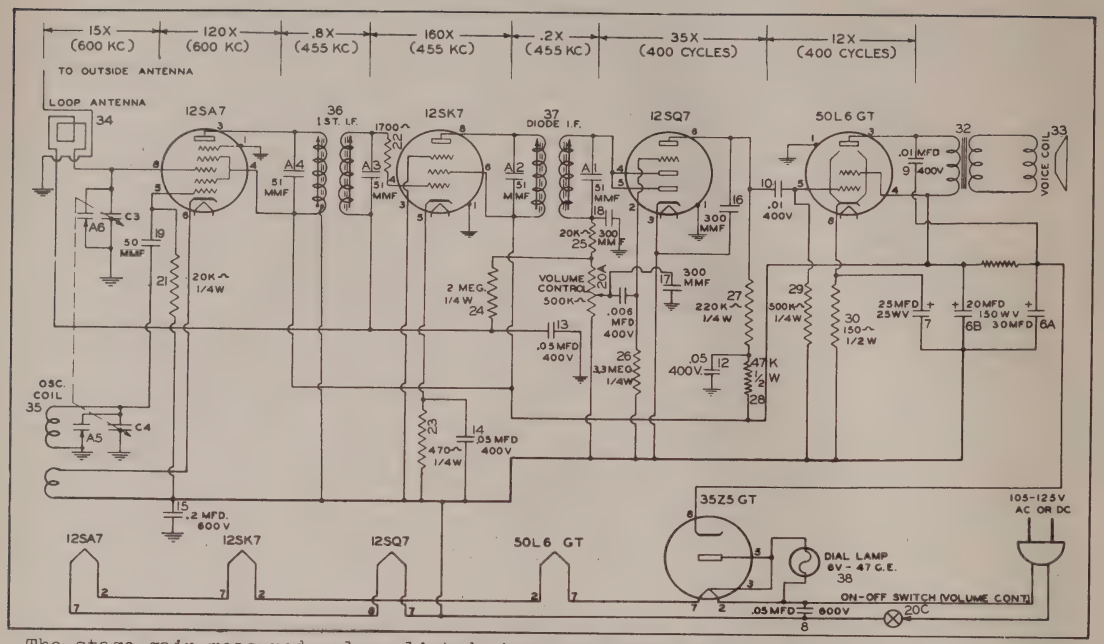
ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					HOWARD PART No.		
38	Bayonet	6-8	0.15A	Brown	LS-0001		

‡ Tentative specification.

CHASSIS—BOTTOM VIEW



SCHEMATIC DIAGRAM



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VOLTAGE AND RESISTANCE ANALYSIS CHART

1 - DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.

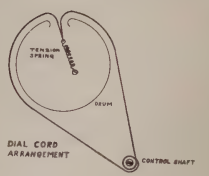
2 - Socket connections are shown as bottom views.

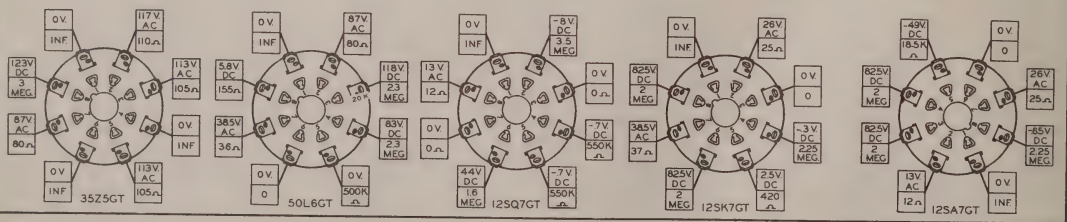
3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.





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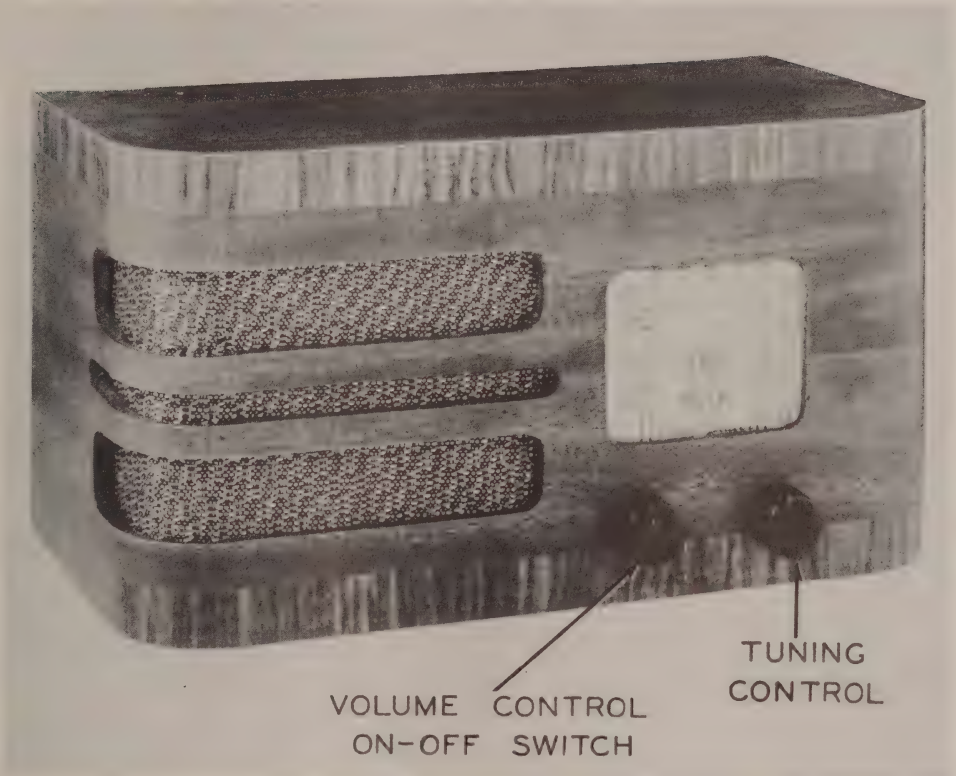


MECK MODEL RC-5C5-P

TRADE NAME	Meck (Trail Blazer) Model RC-5C5-P
MANUFACTURER	John Meck Industries - Plymouth, Indiana
TYPE SET	AC - DC Superheterodyne - Self Contained Foil Antenna
TUBES (FIVE)	Types (Lock-in Models) 14Q7 Mixer,14A7 IF Amp., 14B6 Det.-AVC-1AF, 50A5 Power Output, 35Y4 Rectifier. Types (Octal Models) 12SA7GT Mixer, 12SQ7GT IF Amp., 12SQ7GT Det.-AVC-1AF, 50L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	117 Volts AC - DC Rating .250 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	550-1600 KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA *	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.05MFD.	High side to signal grid of 12SA7. Low side to common neg.	455KC	High end of band.	Across voice coil	A1,A2, A3,A4	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between signal generator ground lead and receiver common negative. Also decrease dummy ant. to .001MFD to prevent excessive hum modulation.
	Loop	1600KC	1600KC	"	A5	Adjust for maximum output. Connect signal generator to loop of few turns of wire and couple loosely to receiver ant. by spacing.
	"	1400KC	Tune in signal	"	A6	Adjust for maximum output.

Volume control at maximum and output from signal generator as low as possible for all adjustments.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: MECK PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Mixer	14Q7 or 12SA7GT	14Q7 or 12SA7GT	8AL 8AD	Lock-in
2	IF	14A7 or 12SK7GT	14A7 or 12SK7GT	8V 8N	Lock-in
3	Det.-AVC.-AF	14B6 or 12SQ7GT	14B6 or 12SQ7GT	8W 8Q	Lock-in
4	Power Output	50A5 or 50L6GT	50A5 or 50L6GT	6AA 7AC	Lock-in
5	Rectifier	35Y4 or 35Z5GT	35Y4 or 35Z5GT	5AL 6AD	Lock-in

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: MECK PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6(A)	40	150	CL-10001	TN129	M-40-150	TA430	PRS-A150-20-20	EDJ10392	Filter - Blue
(B)	30	150			M-2x20-150	UT201	PRS-V150-20		Filter - Red
(C)	20	150							Filter - Yellow
7	.05	400	CP-14503	TP426	S-4-05	TC-15	484-.05	DT4S5	Line Bypass
8	.05	400	CP-14503	TP426	S-4-05	TC-15	484-.05	DT4S5	50L6 Plate Bypass
9	.01	400	CP-14103	TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
10	.01	400	CP-14103	TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
11	.01	400	CP-14103	TP426	S-4-01	TC-11	484-.01	DT4S1	Osc. Coupling
12	.05	400	CP-14503	TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
13	250	500	CM-15251	MC240	MO.5-325	1FM-325	1469-.00025	5W5T25	12SQ7 Plate
14	250	500	CM-15251	MC240	MO.5-325	1FM-325	1468-.00025	5W5T25	RF Bypass
15	300	500	CM-15301	MC241	MOS.5-33	MS-33	1469-.0003	5R5T3	12SA7 Grid

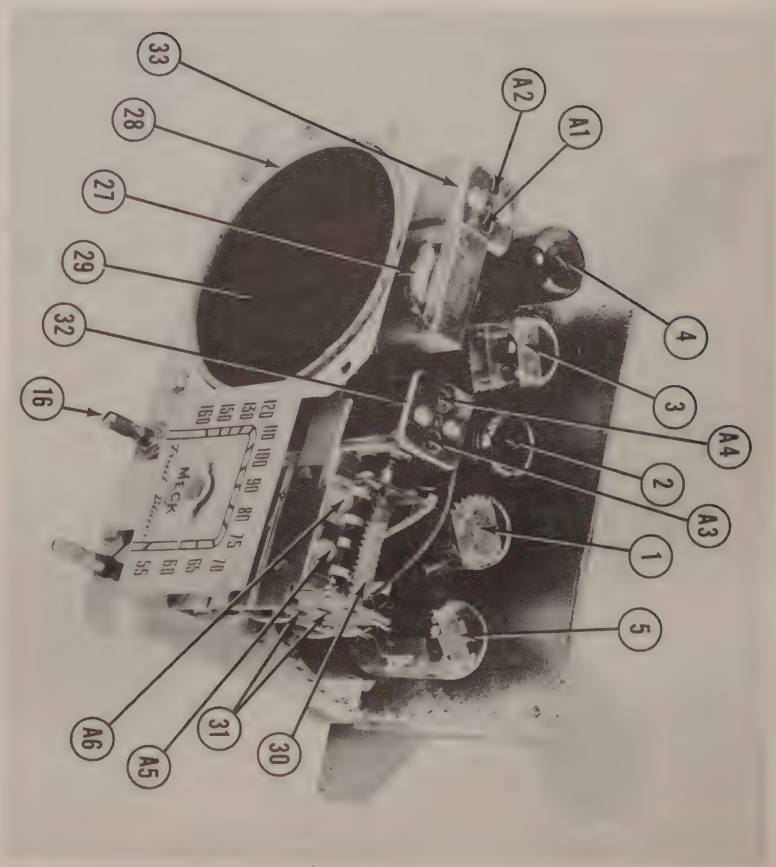
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: MECK PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
16(A)	1 Meg	1	VC-10105	MK402	D13-137	AM-63-Z	Volume Control
(B)	Shaft		Not Req.		E	KSS-3	Attach to 16A per instr.
(C)	Switch		"	M26	41	SW-A	" " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: MECK PART No.	IRC PART No.	IDENTIFICATION CODES
17	20KΩ	½	RC-32002	BTS-20K	Red-Blk.-Or. Mixer Cathode Bias
18	3900Ω	½	RC-34001	BTS-3900Ω	Or.-White-Red Screen Dropping
19	2 Meg.	½	RC-32004	BTS-2 Meg.	Red-Blk.-Grn. AVC Network
20	10 Meg.	½	RC-31005	BTS-10 Meg.	Br.-Blk.-Blue 1st AF Grid Bias
21	250KΩ	½	RC-32503	BTS-250K	Red-Grn.-Yl. 1st AF Plate Load
22	500KΩ	½	RC-35003	BTS-500K	Grn.-Blk.-Yl. Output Grid
23	150Ω	½	RC-31500	BW-½-150Ω	Br.-Grn.-Br. Output Cathode
24	200Ω	½	RC-32000	BW-½-200Ω	Red-Blk.-Br. Filter
25	1000Ω	½	RC-31001	BTS-1000Ω	Br.-Blk.-Red Filter
26	100KΩ	½		BTS-100KΩ	Br.-Blk.-Yl. 1st IF Shunt

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		MECK PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
27	2100Ω	3.25Ω	188Ω	.9Ω	TO-10000	A3876*	T13842*	8775†	*Make new mounting bracket. †Bend mounting tabs down and mount on original bracket.

SPEAKER

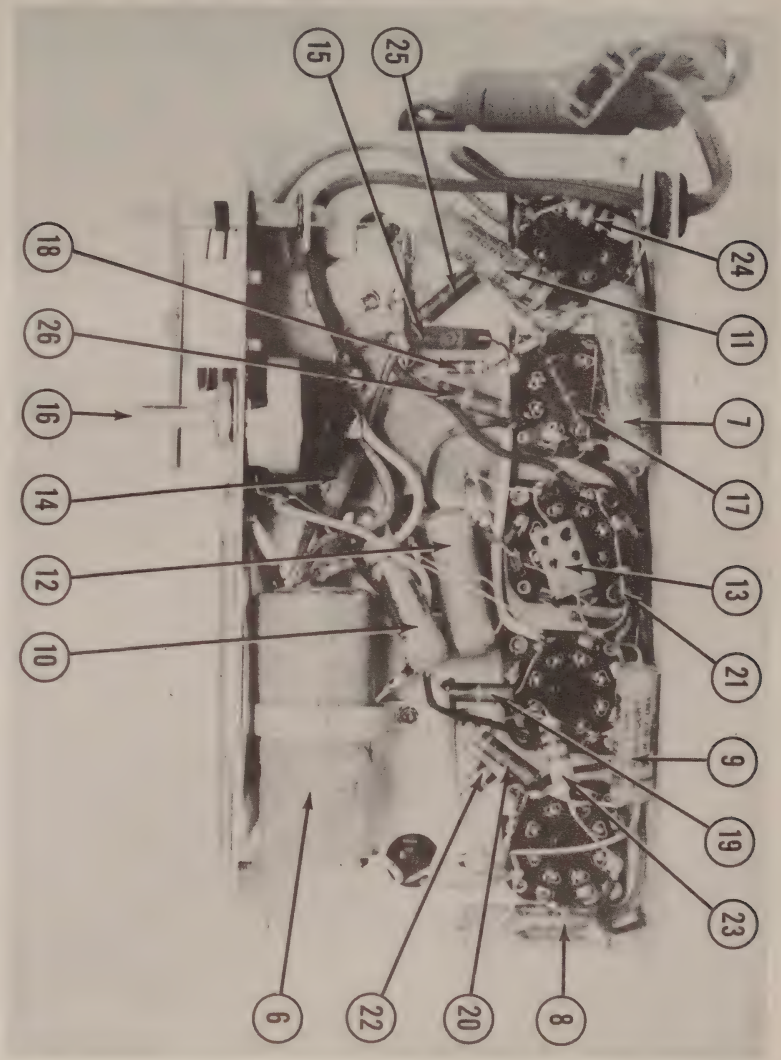
ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			MECK PART No.	JENSEN PART No.	UTAH PART No.	
	FIELD	VC IMP.				
28	PM	3.25Ω	SR-10000	ST-540	4PY	
	CONE DIA.	VC DIA.				
29	3-15/16"	1/2"	NOT REPLACEABLE - USE COMPLETE SPEAKER UNIT			

R F COILS

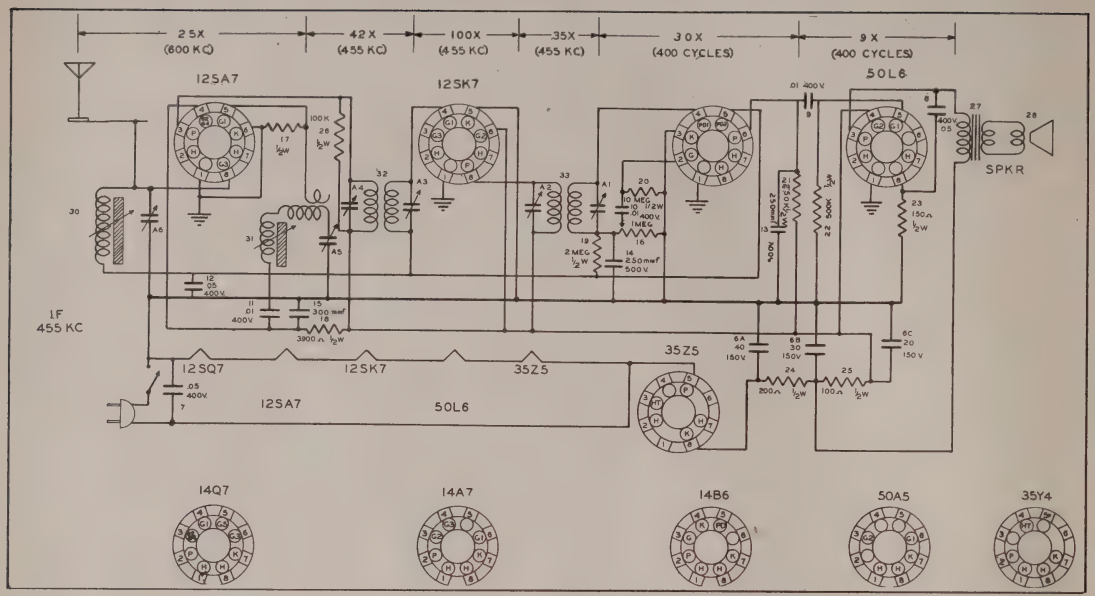
ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	MECK PART No.	MEISSNER PART No.	
30	Ant.	4.5Ω		VP-10000	‡	Permeability tuner assembly
31	Osc.	8.5Ω	6Ω	VP-10000	‡	" " "
32	Input IF	20Ω	20Ω	TS-10000	16-6658	
33	Output IF	19Ω	19Ω	TS-10001	16-6660	

‡ Tentative specification

CHASSIS—BOTTOM VIEW



SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to intorduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3 volt battery bias is substituted for measurements.

VOLTAGE AND RESISTANCE ANALYSIS CHART

1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

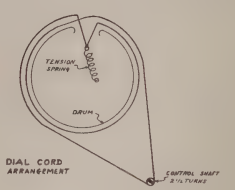
2 - Socket connections are shown as bottom views.

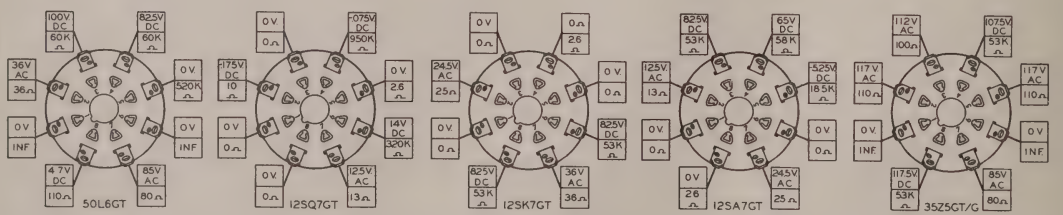
3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of + 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.





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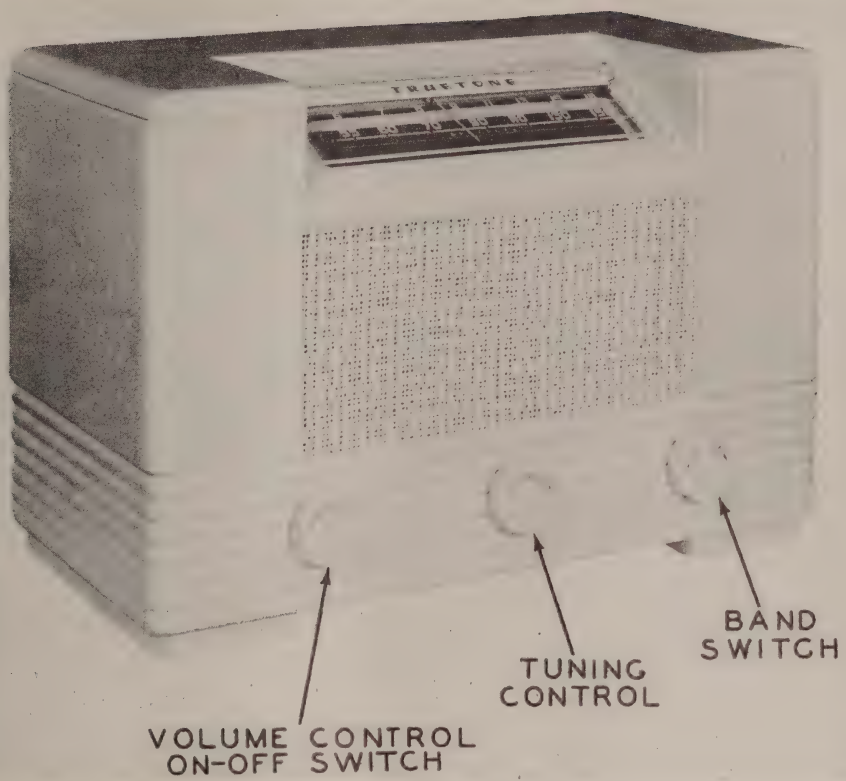
TRUETONE
MODEL D 2630



TRUETONE MODEL D2630

TRADE NAME	Truetone, Model D2630 (Factory 27D14-602 Issue A)
MANUFACTURER	Western Auto Supply Co. - 2107 Grand Ave. - Kansas City, Missouri
TYPE SET	AC - DC 2 Band Superheterodyne - Self Contained Loop Antenna
TUBES (SEVEN)	Types 12SA7 1st Det.-Osc., 12SK7 1st IF Amp., 6SS7 2nd IF Amp., 12SQ7 2nd DET-AVC, 12SJ7 1st AF, 35L6GT Power Output, 35Z5GT Rectifier
POWER SUPPLY	117 Volts AC-DC Rating .385 Amp. at 117 Volts AC
TUNING RANGE—BROADCAST	528-1600KC SHORT WAVE 5.75-18.3MC

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1MFD	High side to signal grid of 12SA7 Low side to point "X".	455KC	BC	Rotor fully open.	Across voice coil	A1,A2 A3,A4	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between signal generator ground lead and point "X". Also decrease dummy ant. to .001 MFD to prevent excessive hum modulation.
200 MMFD	External ant. clip. and point "X"	1400KC	"	1400KC index line.	"	A5	Adjust for maximum output.
"	"	"	"	"	"	A6	" " " "
"	"	600KC	"	Tune to signal	"	A7	Rock rotor and adjust for maximum.
							Repeat adjustments as shown for A5 and A7 for maximum output.
400	"	16MC	SW	1400KC index line.	"	A8	Adjust for maximum output.
"	"	"	"	"	"	A9	Adjust for maximum output.

Volume control at maximum and output from signal generator low as possible. Check dial by turning rotor fully closed and dial pointer should be over index line at extreme left.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA TRUETONE PART No.	REPLACEMENT DATA STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	1st Det.-Osc.	12SA7	12SA7	8R	
2	1st IF Amp.	12SK7	12SK7	8N	
3	2nd IF Amp.	6SS7	6SS7	8N	
4	2nd Det.-AVC	12SQ7	12SQ7	8Q	
5	1st. AF	12SJ7	12SJ7	8N	
6	Power Output	35L6GT	35L6GT	7AC	
7	Rectifier	35Z5GT	35Z5GT	3AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA TRUETONE PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
8(A)	50	150	45X342	2N521	DSB-2x50/20x25	UT-501	PRHA-50502	EDJ10405	Filter - Red
(B)	50	150				UT-501			Filter - Green
(C)	20	25		TC23		TA-25			Filter - Yellow
9	.2	400	B66204	TP429	S-4-2	TC-2	484-.2	DT4P2	Line Isolating
10	.1	400	B65104	TP428	S-4-1	TC-1	484-.1	DT4P1	Line Bypass
11	.01	200	B66103	TP421	S-4-01	TC-11	484-.01	DT4S1	35L6 Plate
12	.01	200	B66103	TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
13	.025	200	B64253	TP451	S-6-03	TC-11	484-.025	DT4S25	Audio Decoupling
14	.1	200	B66104	TP428	S-4-1	TC-1	484-.1	DT4P1	12SJ7 Screen
15	.005	200	B66502	TP408	S-6-005	TC-25	484-.005	DT6D5	Audio Coupling
16	.04	200	B66403	TP425	S-6-04	TC-14	484-.04	DT4S4	Tone Compensation
17	.04	200	B66403	TP425	S-6-04	TC-14	484-.04	DT4S4	AVC Filter
18	.1	200	B66104	TP428	S-4-1	TC-1	484-.1	DT4P1	AVC Filter
19	.04	200	B66403	TP425	S-6-04	TC-14	484-.04	DT4S4	12SA7 Screen
20	.00475	130	46X289						Fixed Pad
21	.001	200	B66102	TP404	S-6-001	TC-21	484-.001	DT6D1	Ant. Coupling
22	470	500	47X467	MCB245	MOS.5-35	MS-35	1469-.0005	5R5T5	12SJ7 Plate
23	47	500	47X446	MC225	MO.5-45	1FM-45	1468-.00005	5W5T5	Tone Compensation
24	100	500	47X476	MC235	MO.5-31	1FM-31	1468-.0001	5W5T1	RF Filter
25	47	500	47X463	MC225	MO.5-45	1FM-45	1468-.00005	5W5Q5	RF Bypass Vol. Cont.
26	47	500	47X446	MC225	MO.5-45	1FM-45	1468-.00005	5W5Q5	IF Coupling
27	68	500	47X466	MCB230	MOS.5-47	MS-47	1469-.00007	5W5Q7	Osc. Grid Cond.

Replacement for Item 20 should be exact value. A value of .005 may be used with slight decrease of sensitivity and tracking on short wave band.

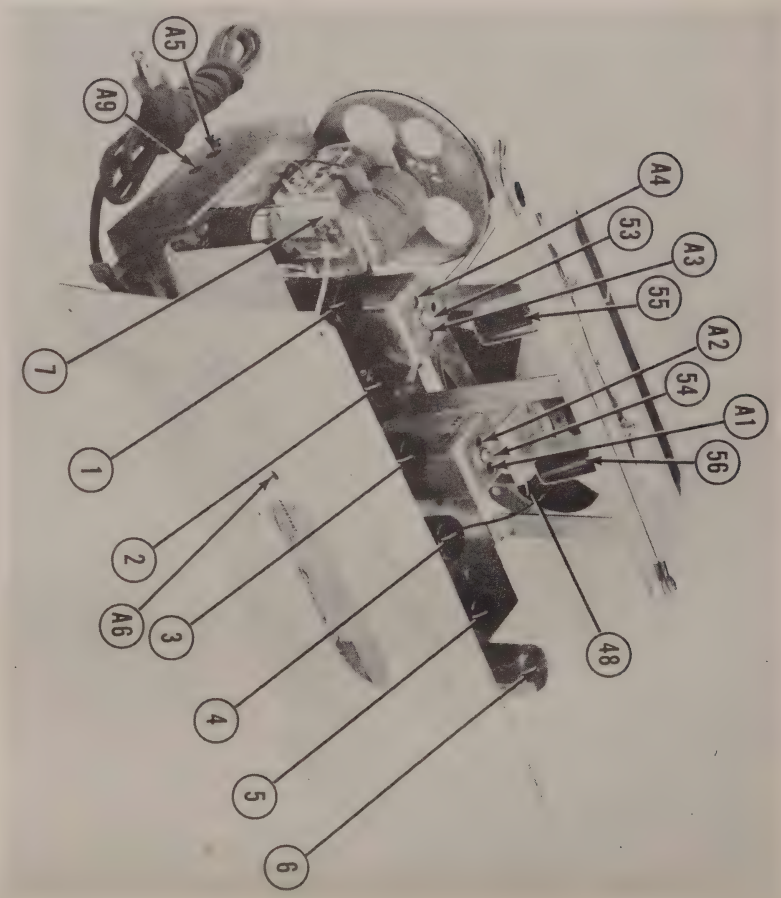
CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA TRUETONE PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
28(A)	500KΩ	1	36X309	MK401	D13-133	AM-60-Z	Volume Control
(B)	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 28A per instr.
(C)	Switch		Not Req.	M26	41	SW-A	" " " "

RESISTORS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA TRUETONE PART No.	REPLACEMENT DATA IRC PART No.	IDENTIFICATION CODES
29	39KΩ	½	B84393	BTS-39K	Or.-Wh.-Or. 1st Det. Grid Load
30	4700Ω	½	B84472	BTS-4700	Yl.-Vi.-Red 1st Det. Screen Dropping
31	47KΩ	½	B85473	BTS-47K	Yl.-Vi.-Or. AVC Network
32	3300Ω	½	B84332	BTS-3300	Or.-Or.-Red 1st IF Plate Load
33	47KΩ	½	B85473	BTS-47K	Yl.-Vi.-Or. AVC Network
34	100K	½	B85104	BTS-100K	Br.-Blk.-Yl. Diode Load
35	2.2 Meg	½	B85225	BTS-2.2 Meg	Red-Red-Gr. AVC Filter
36	4.7 Meg	½	B85475	BTS-4.7 Meg	Yl.-Vi.-Gr. 1st AF Grid Load
37	15KΩ	½	B84153	BTS-15K	Br.-Gr.-Or. Tone Compensation
38	470KΩ	½	B85474	BTS-470K	Yl.-Vi.-Yl. 1st AF Screen Dropping
39	33KΩ	½	B84333	BTS-33K	Or.-Or.-Or. 1st AF Plate Load
40	82KΩ	½	B84823	BTS-82K	Gray-Red-Or. 1st AF Plate Dropping
41	470KΩ	½	B85474	BTS-470K	Yl.-Vi.-Yl. Output Grid Load
42	180Ω	½	B84181	BW-½-180Ω	Br.-Gray-Br. Output Cathode
43	220KΩ	½	B85224	BTS-220K	Red-Red-Yl. Line Isolating
44	775Ω	28	43X214		Line Dropping
45	27Ω	½	B84270	BW-½-27Ω	Red-Vi.-Blk. Rectifier Ballast
46	1500Ω	1	C85152	BTA-1500Ω	Br.-Grn.-Red Filter

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		TRUETONE PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
47	3480Ω	3.56Ω	343Ω	.87Ω	51X120A	A3876	T13842	#5775	When Installing A3876 or T13842 it will be necessary to drill one new mounting hole.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			TRUETONE PART No.	JENSEN PART No.	UTAH PART No.	
	FIELD	VC IMP.				
48	2M	3.85Ω	12A430			
	CONE DIA.	VC DIA.				
	Oval 4"x6"	5/8"	NOT REPLACEABLE - USE COMPLETE SPEAKER UNIT			

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	TRUETONE PART No.	MEISSNER PART No.	
49(a)	BC Loop	.3Ω	1.2Ω	9A1792	‡	Used in early models
(b)	BC Loop	.3Ω	1.2Ω	26A367	‡	Replaces 9A1792 (Use for all Models)
50	SW Ant.	.5Ω	.1Ω	9A1443	‡	
51	BC Osc.	.1Ω	5.8Ω	9A1442	‡	
52	SW Osc.	.2Ω	.1Ω	9A1444	‡	
53	Input IF	20Ω	19Ω	9A1793	16-5712	
54	Output IF	20.5Ω	17.5Ω	9A1794	16-5714	

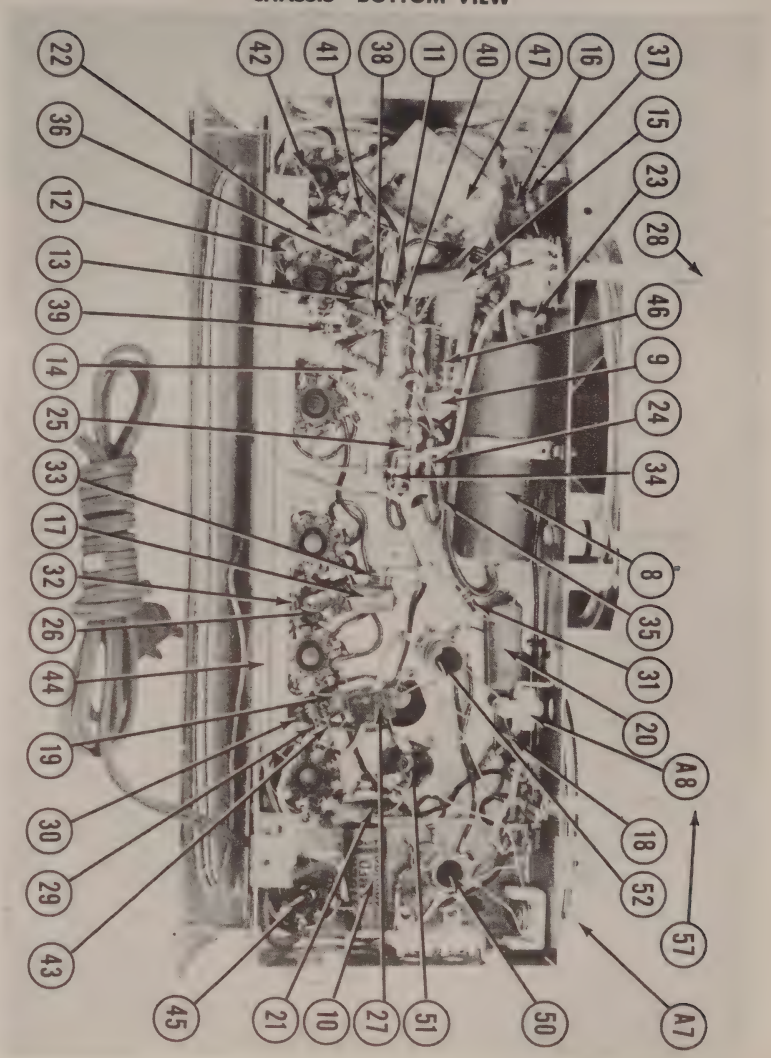
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					TRUETONE PART No.		
55	Min. Bayonet	6-8	0.15	Brown	7A193		#47
56	Min. Bayonet	6-8	0.15	Brown	7A193		#47

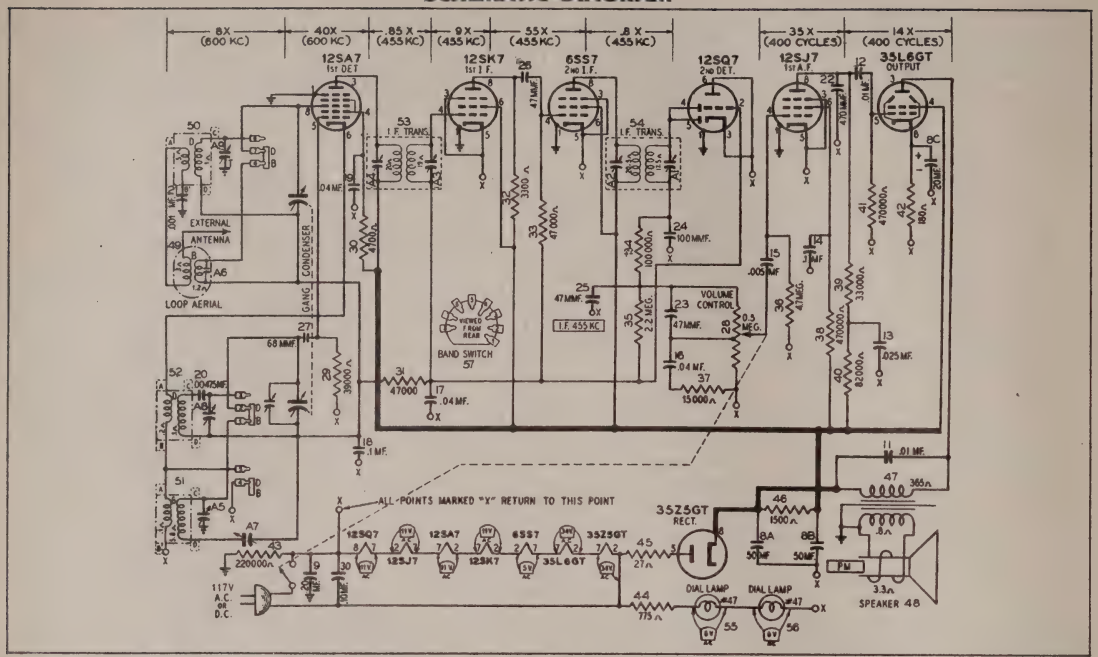
MISCELLANEOUS

ITEM No.	PART NAME	TRUETONE PART No.	NOTES
57	Band Switch	2A206	
A5	Trimmer	17A152	Broadcast Osc. 2-25 MMF
A6	"	17A153	Broadcast Ant. 1-12 MMF
A7	"	17A234	Broadcast Padder 250-525 MMF
A8	"	17A174	Short Wave Osc. 2-25 MMF
A9	"		Short Wave Ant. 2-25 MMF Part of A A5(17A152)
	Tuning Cap	14A148	2 Gang Tuning Capacitor and Pulley
	Knob(Tuning)	10A520	For use with ivory cabinet
	" (Volume)	10A521	" " " " "
	" (Band Sw)	10A522	" " " " "
	" (Tuning)	10A467	" " " walnut "
	" (Volume)	10A468	" " " " "
	" (Band Sw)	10A469	" " " " "

CHASSIS—BOTTOM VIEW

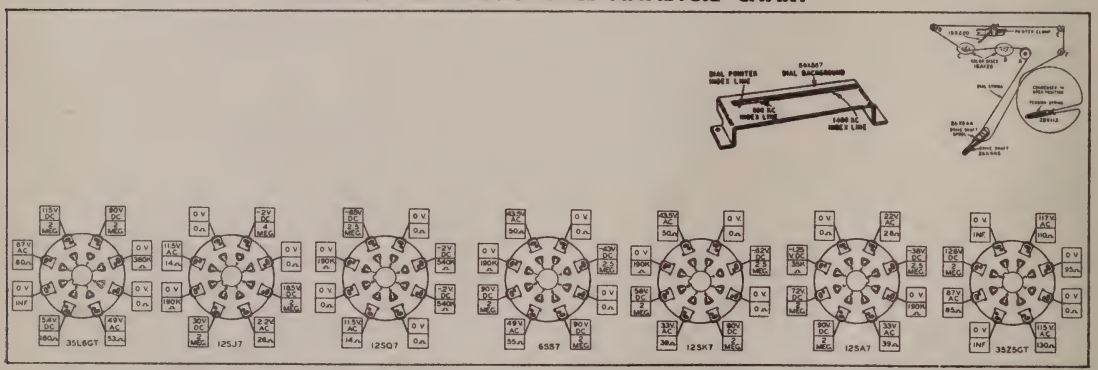


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3 volt battery bias substituted for measurements.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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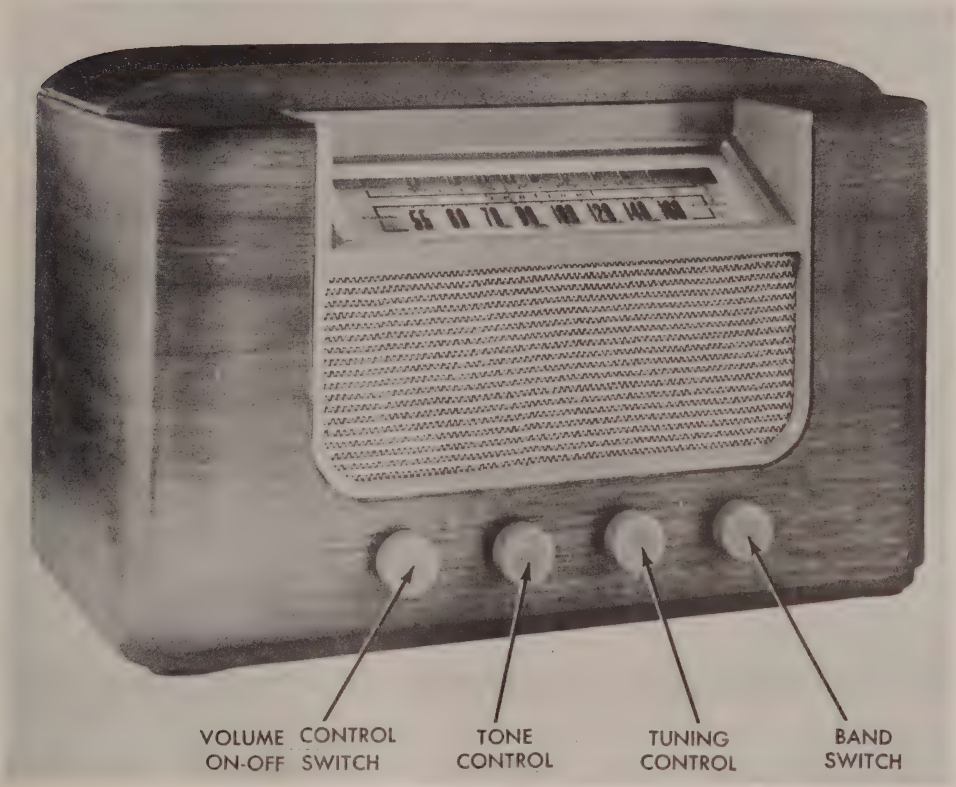
SENTINEL
MODEL 294 SERIES



SENTINEL
MODEL 294 SERIES

SENTINEL MODEL 294T

TRADE NAME	Sentinel, Models 294I, 294N, 294T, IU-294I, IU-294N, IU-294T
MANUFACTURER	Sentinel Radio Corp. - 2020 Ridge Avenue - Evanston, Illinois
TYPE SET	AC - DC 2 Band Superheterodyne - Self Contained Loop Antenna
TUBES (SIX)	Types 12SG7 RF Amp., 12SA7 Osc.-Mod., 12SK7 IF Amp., 12SQ7 Det.-AVC-1AF, 35L6GT Power Output, 35Z5GT Rectifier
POWER SUPPLY	117 Volts AC-DC Rating- .246 Amp. at 117 Volts AC
TUNING RANGE—BROADCAST	538-1620 KC SHORT WAVE 5.7 - 18.3 MC

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.2MFD	High side to rear stator plates. Low side to frame	455KC	BC	Any point of no interfering signal	Across voice coil	A1,A2 A3,A4	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between signal generator ground lead and receiver common negative. Also decrease dummy ant. to .001MFD to prevent excessive hum modulation.
.00025 MFD	High side to ant. (blue) lead. Low side to frame.	455KC	"	Max. capacity	"	A5	Adjust for minimum output.
"	"	1620KC	"	1620KC	"	A6	Adjust for maximum output.
"	"	1400KC	"	Approx. 1400KC	"	A7	" " " "
"	"	600KC	"	Approx.600KC	"	A8	Rock dial and adjust for maximum output.
400Ω Res.	"	18.3MC	SW	18.3MC	"	A9	Adjust for maximum output.
400Ω Res.	"	15MC	"	15MC	"	A10	Rock dial and adjust for maximum output.

Adjust dial pointer to last line at low freq. end with rotor fully meshed. Volume control at maximum and output of signal generator as low as possible for all adjustments. Loop ant. in same position as it will be with set in cabinet. Use insulated alignment screwdriver for adjusting trimmers.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: SENTINEL PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	12SG7	12SG7	8BK	
2	Osc.-Mod.	12SA7	12SA7	8R	
3	IF Amp.	12SK7	12SK7	8N	
4	Det.-AVC.-AF	12SQ7	12SQ7	8Q	
5	Power Output	35L6GT	35L6GT	7AC	
6	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: SENTINEL PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7(A)	30	150	25E10	2N513	DHN-2x50-150	TA-330	PRS 150-40-40	BRD3315	Filter - Yellow
(B)	30	150							" - Red
8(A)	30	150	25E6	2N511	DHN-2x50-150	TA-430	PRS 150-40-40	BRD4415	" - Yellow
(B)	40	150							" - Red
9	.05	400	25E416	TP426	S-4-05	TC-15	484-.05	DT4S5	Line Bypass
10	.01	400	25E411	TP421	S-4-01	TC-11	484-.01	DT4S1	Power Amp. Plate
11	.01	400	25E411	TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
12	.002	200	23E205	TP405	S-6-002	TC-22	484-.002	DT6D2	Tone Control
13	.005	400	23E208	TP405	S-6-005	TC-25	484-.005	DT6D5	Audio Coupling
14	.01	200	23E211	TP421	S-4-01	TC-11	484-.01	DT4S1	IF Plate Filter
15	.2	400	23E421	TP429	S-4-2	TC-2	484-.2	DT4P2	Line Isolating 1
16	.01	200	23E211	TP421	S-4-01	TC-11	484-.01	DT4S1	RF Bypass B+
17	.05	200	23E216	TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
18	.005	200	23E408	TP408	S-6-005	TC-25	484-.005	DT6D5	Ant. Coupling
19	.01	200	23E211	TP421	S-4-01	TC-11	484-.01	DT4S1	RF Screen Bypass
20	100	500	23E39	MC235	MO.5-31	1FM-31	1468-.0001	5W5T1	Audio Plate Bypass
21	100	500	23E39	MC235	MO.5-31	1FM-31	1468-.0001	5W5T1	RF Filter Vol. Cont.
22	250	500		MC240	MO.5-325	1FM-325	1468-.00025	5W5T25	RF Bypass Vol. Cont.
23	50	500		MC225	MO.5-45	1FM-45	1468-.00005	5W5Q5	Osc. Grid Cond.
24	2100	500		MC461	MW.5-23	1FM-23	1467-.003	1W5D3	Fixed Pad S.W.
25	250	500		MC240	MO.5-325	1FM-325	1468-.00025	5W5T25	RF Coupling

1 In Underwriters approved sets only.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: SENTINEL PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
26(A)	500K	1	28E7	MK401	D13-133	AM-60-Z	See Inst. Notes #1 & #2
(B)	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 26A per instructions
(C)	Switch		" "	M26	41	SW-A	" " " " "
27(A)	500K	1	28E8	MK401	D13-133	AM-60-Z	See Inst. Note #2
(B)	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 27A per instructions.

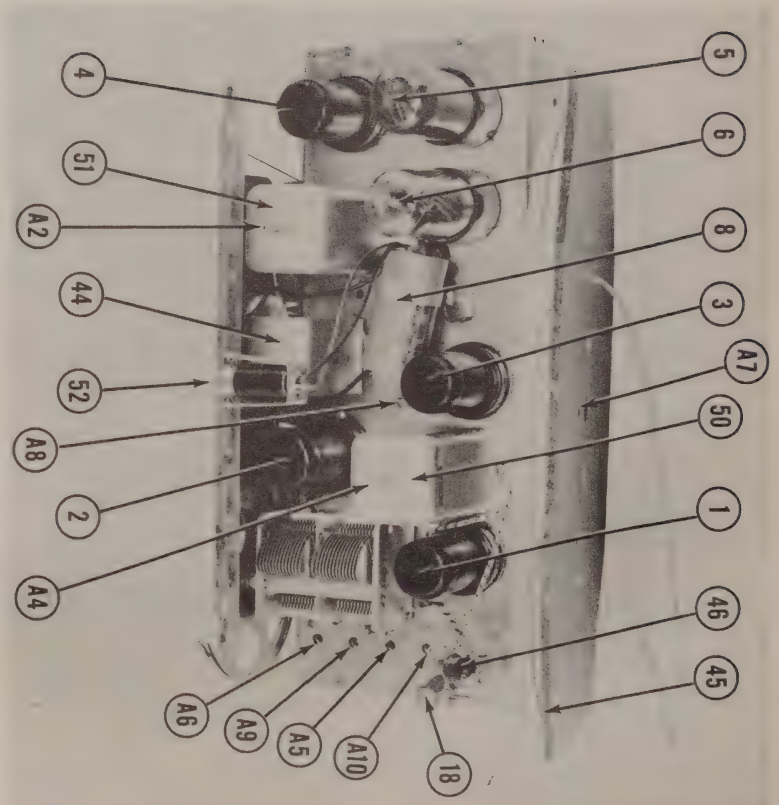
Inst. Note #1 - Install a 50KΩ Resistor in series with the right hand terminal of the control and the lead connecting to the same terminal of the original control (control viewed from shaft side terminals down).

Inst. Note #2 - Wrap scotch tape around shaft adjacent to lock ring for drive cord surface.

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: SENTINEL PART No.	IRC PART No.	IDENTIFICATION CODES
28	56Ω	1/3	27E560	BW-½-56Ω	Grn.-Blue-Bl. RF Cathode
29	10KΩ	1/3	27E103	BTS-10K	Br.-Bl.-Or. RF Screen Dropping
30	8200Ω	1/3	27E822	BTS-8200Ω	Gray-Red-Red RF Plate Dropping
31	220K	1/3	27E474	BTS-220K	Red-Red-Yl. Mixer Grid
32	22KΩ	1/3	27E223	BTS-22K	Red-Red-Or. Osc. Grid
33	3.3 Meg	1/3	27E335	BTS-3.3 Meg	Or.-Or.-Grn. AVC Network
34	470Ω	1/3	27E471	BTS-470Ω	Yl.-Vi.-Br. IF Plate Dropping
35	10 Meg	1/3	27E106	BTS-10 Meg	Br.-Bl.-Blue 1st AF Grid
36	470K	1/3	27E474	BTS-470K	Yl.-Vi.-Yl Plate Load
37	470K	1/3	27E474	BTS-470K	Yl.-Vi.-Yl. Output Grid
38	150Ω	1/3	27E151	BW-½-150Ω	Br.-Grn.-Br. Output Cathode
39	1000Ω	1	27E102-3	BTA-1000Ω	Br.-Bl.-Red Filter
40	47Ω	1/2		BW-½-47Ω	Yl.-Vi.-Bl. Rectifier Ballast
41	100Ω	1/2	27E101-2	BW-½-100Ω	Br.-Bl.-Br. Pilot Light Ballast
42	220K	1/3	27E224	BTS-220K	Red-Red-Yl. Line Isolating - Underwriters approved models only.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		SENTINEL PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
43	4565Ω	3.57Ω	248Ω	.93Ω	22E8	A3876*	T13542*	8775*	*Mounting bracket must be fabricated.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			SENTINEL PART No.	JENSEN PART No.	UTAH PART No.	
	FIELD	VC IMP.				
44	PM Oval	3.57Ω	1E1			
	CONE DIA.	VC DIA.				
	6"x4"	1" 2	4609-005	NOT REPLACEABLE - USE		COMPLETE SPEAKER

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	SENTINEL PART No.	MEISSNER PART No.	
45	Loop Ant.	1Ω		64E5		
46	Ant.	.5Ω	0	20E72		
47	RF Choke	50Ω		2E19		
48	B.C. Osc.	7Ω	.5Ω	20E102		
49	S.W. Osc.	0	0	20E103		
50	Input IF	11Ω	11Ω	20E21	16-5740	
51	Output IF	10Ω	11Ω	20E22	16-5742	

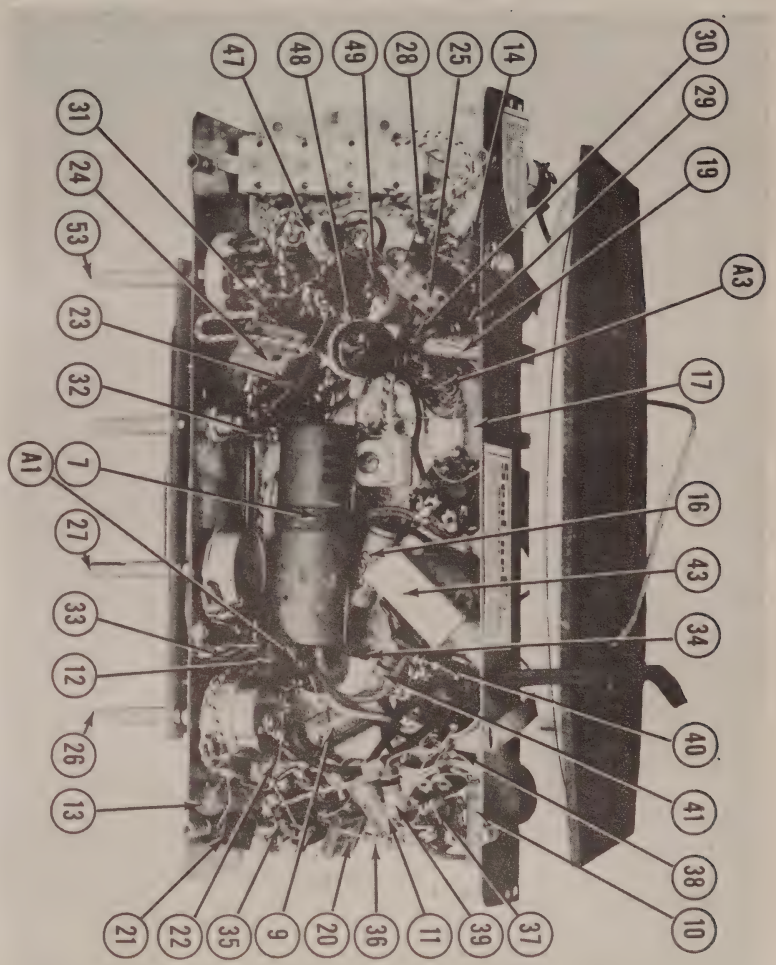
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					SENTINEL PART No.		
52	Min.Bayonet	6-8	0.15	Brown	40E1		No. 47

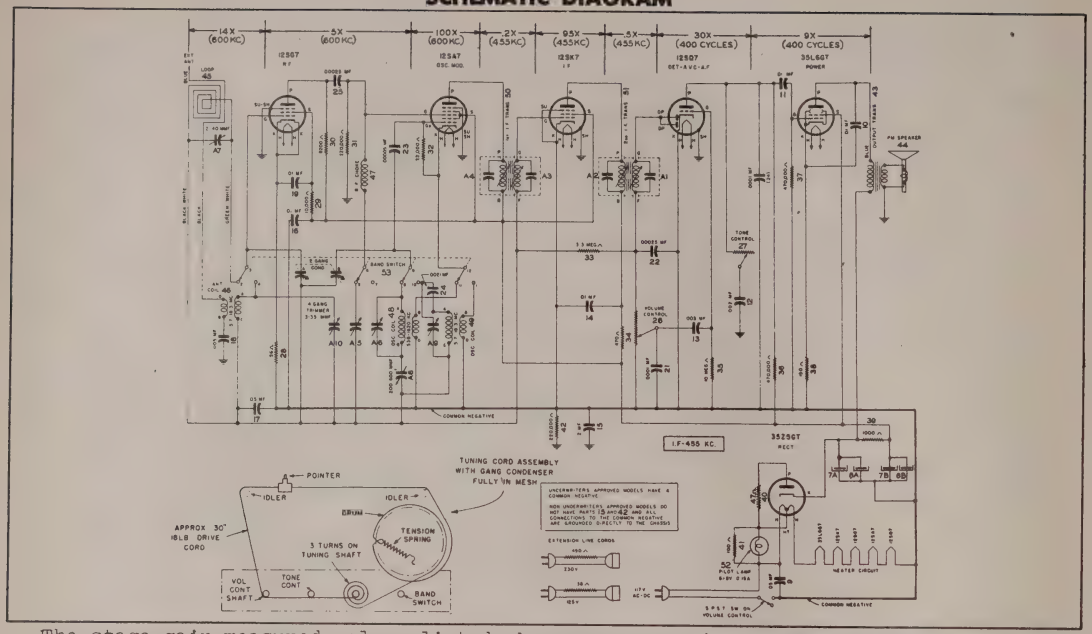
MISCELLANEOUS

ITEM No.	PART NAME	SENTINEL PART No.	NOTES
53	Band Switch	29E8	
	Tun.Cap.Gang	24E9	2 Gang with pulley
A5	Trimmer	24E15	4 Gang Strip Containing A5,A6, A9,A10
A6	"	"	4 Gang Strip Containing A5,A6, A9,A10
A7	"	24E3	Antenna Loop 2-40 MMF.
A8	"	24E16	Padding Capacitor 200-600 MMF.
A9	"	24E15	See A5
A10	"	"	" "
	Dial Scale	36E19	
	Dial Scale Clip	32E4	
	Dial Pointer	35E13	
	Dial Cord Spring	65E2	
	Dial Crystal	9E5	

CHASSIS—BOTTOM VIEW

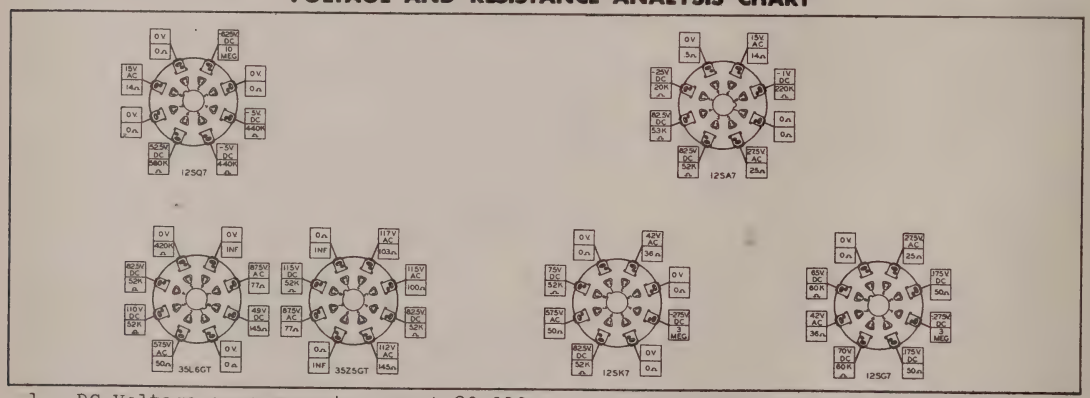


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3 volt battery bias is substituted for measurements.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.

6 - Volume Control at maximum, no signal applied for voltage measurements.

HOWARD W. SAMS & CO., INC.

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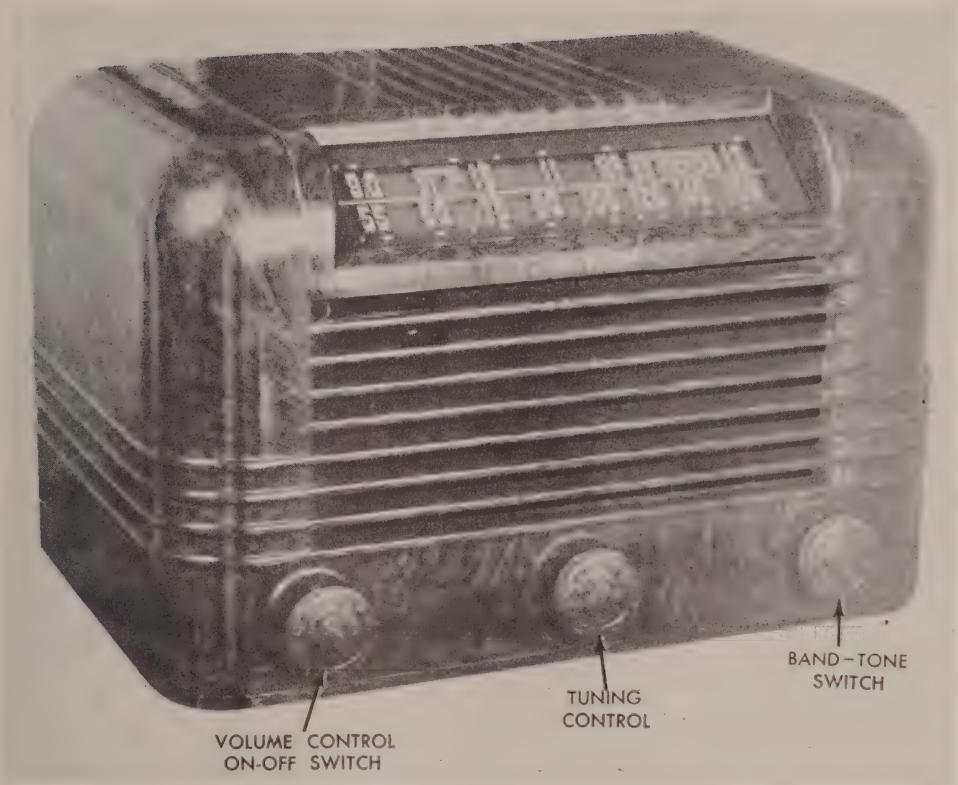
R C A VICTOR
MODEL 56X10
(CHASSIS RC-1023B)



R C A VICTOR
MODEL 56X10
(CHASSIS RC-1023B)

RCA VICTOR MODEL 56X10

TRADE NAME	RCA Victor, Model 56X10 (Chassis RC-1023B)
MANUFACTURER	Radio Corporation of America, RCA Victor Division - Camden, New Jersey
TYPE SET	AC - DC 2 Band Superheterodyne - Self Contained Loop Antenna
TUBES (SIX)	Types 12SG7 RF Amp., 12SA7 1st DET.-OSC., 12SK7 IF Amp., 12SQ7 2nd DET.-AVC-1AF, 35L6GT/G Power Output, 35Z5GT/G Rectifier
POWER SUPPLY	105-125 Volts AC-DC Rating .260 Amp. at1117 Volts AC
TUNING RANGE--BROADCAST	540-1600KC SHORT WAVE 8.9-12 MC

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1MFD	High side to pin #8 of 12SA7. Low side to B-.	455KC	BC (max C.C.W.)	Quiet point at 1600KC end of dial.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. See Note A
220 MMFD	High side to ant. term. Low side to B-.	600KC	"	600KC	"	A5	Rock dial and adjust for maximum output.
"	"	1300KC	"	1300KC	"	A6	Adjust for maximum output.
"	"	"	"	"	"	A7	" " " "
							Repeat A5, A6 and A7 for exact calib.
1MFD	"	11.8MC	SW (max C.W.)	11.8MC	"	A8	Rock gang and adjust for maximum output. See Note B.
47MMFD	"	"	"	"	"	A9	Rock gang and adjust for output. Repeat A8 and A9 adjustments.
	Note A - Use isolation transformer if available. If not, isolation capacitor must be connected between signal generator ground lead and receiver B-. Also decrease dummy ant. to .001 MFD to prevent excessive hum modulation. Note B - Use min. cap. peak if two can be obtained. Check for selection of correct peak by tuning receiver to approximately 10.9 MC where a weaker signal sh should be received. C.C.W-Counter-Clockwise C.W.-Clockwise						

Volume control at maximum and output from signal generator as low as possible for all adjustments. Adjust dial pointer to left(max. cap.) mark with rotor in full mesh. Tuning dial(glass plate) may be removed from cabinet and temporarily attached to dial back plate for calibration. Use insulated. alignment screwdriver.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: RCA PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	12SG7	12SG7	8BK	
2	1st Det.-Osc.	12SA7	12SA7	8R	
3	IF Amp	12SK7	12SK7	8N	
4	2nd Det.-AVC-AF	12SQ7	12SQ7	8Q	
5	Power Output	35L6GT	35L6GT	7AC	
6	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: RCA PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7(A)	50	150	39152	2N520	DHN-2x50-150	TA-530	PRS-150-40-40	BRD3515	Filter - Red 86053-1
(B)	30	150							Filter - Green
8	.05	400	70615	TP426	S-4-05	TC-15	484-.05	DT4S5	RF Bypass 35Z5
9	.02	700	70711	TP412	S-6-02	TC-12	684-.02	DT6S2	35L6 Plate Bypass
10	.005	600	70627	TP408	S-6-005	TC-25	684-.005	DT6D5	Audio Coupling
11	.0018	600	70712	TP405	S-6-002	TC-22	684-.002	DT6D2	Tone Control
12	.02	700	70711	TP412	S-6-02	TC-12	684-.02	DT6S2	Audio Coupling
13	.25	400	70618	TP430	S-4-25	TC-2	484-.25	DT4P25	RF Bypass Pwr. Supp.
14	.1	400	70617	TP428	S-4-1	TC-1	484-.1	DT4P1	Line Isolating
15	.1	400	70617	TP428	S-4-1	TC-1	484-.1	DT4P1	RF Plate Decoupling
16	.01	1000	70652	TP410	S-6-01	TC-11	684-.01	DT6S1	Osc. Tuned Circuit
17	.005	600	70627	TP408	S-6-005	TC-15	684-.005	DT6D5	Osc. Plate Coupling SW
18	.01	1000	70652	TP410	S-6-01	TC-11	684-.01	DT6S1	Ant. Coupling
19	.035	600	70635	TP414	S-6-04	TC-14	684-.03	DT6S4	AVC Filter
20	330	500	39640	MC243	M0.5-34	1FM-34	1468-.0004	5W5T4	12SQ7 Grid Bypass
21	56	500	39622	MC225	M0.5-45	1FM-45	1468-.00005	5W5Q5	Osc. Grid Cond.
22	150	500	39632	MC233	M0.5-315	1FM-315	1468-.00015	5W5T15	RF Coupling
23	150	500	39632	MC236	M0.5-315	1FM-315	1468-.00015	5W5T15	Fixed Pad
24	22	500	39612	MCB220	M0S.5-42	MS-42	1469-.000025	5R5Q25	Fixed Trimmer

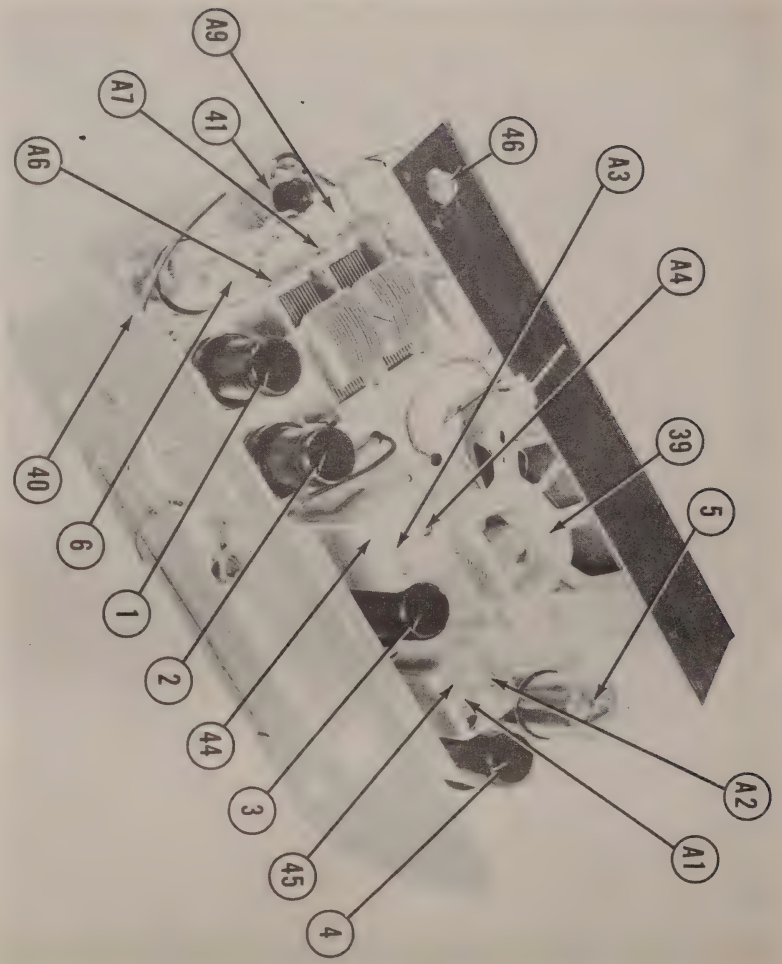
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: RCA PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
25(A)	500K	1	36242	MR48	DS13-133	M-60-Z	Install a 50KΩ resistor in series with the right hand terminal of the control and the lead connecting to the same terminal of the original control. (Control viewed from shaft side, terminals down.)
(B)	Switch			M26T	47	SW-A6	Attach to 25(A) per instructions.

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: RCA PART No.	IRC PART No.	IDENTIFICATION CODES
26	120Ω	½	30189	BW-½-120	Br.-Red-Br. Plate Filter
27	1200Ω	½	30731	BTS-1200	Br.-Red-Red Plate Load
28	220KΩ	½	14583	BTS-220K	Red-Red-Yl. 1st Det. Grid
29	22KΩ	½	30492	BTS-22K	Red-Red-Or. Osc. Grid
30	15 Meg.	½	38785	BTS-15 Meg.	Br.-Grn.-Blue AVC Network
31	3.3 Meg.	½	12928	BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
32	4.7 Meg.	½	30931	BTS-4.7 Meg.	Yl.-Vi.-Grn. 1st AF Grid
33	220KΩ	½	14583	BTS-220K	Red-Red-Yl. Plate Load
34	470KΩ	½	30648	BTS-470K	Yl.-Vi.-Yl. Output Grid
35	120Ω	½	30189	BW-½-120	Br.-Red-Br. Output Cathode
36	220KΩ	½	14583	BTS-220K	Red-Red-Yl. Line Isolating
37	1200Ω	1	6134	BTA-1200	Br.-Red-Red Filter

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		RCA PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
38	2220Ω	3.4Ω	235Ω	.86Ω	36800	A3876#	T13842#	6775#	Original Part No. 352605 #When using listed replacements disregard the tapped primary of the original which is used in conjunction with 1200 resistor for filtering purposes. Drill new mounting holes.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			RCA PART No.	JENSEN PART No.	UTAH PART No.	
39	FIELD 1M	VC IMP. 3.4	70413	ST-443#	5FY#	Original Part No. 92510-1 #Bracket Improvision necessary.
	CONE DIA. 11" / 42	VC DIA. 1" / 2	NOT REPLACEABLE - USE COMPLETE SPEAKER UNIT			

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	RCA PART No.	MEISSNER PART No.	
40	Loop Ant.	0	1.1Ω	39841		
41	Ant. Coil	2.3Ω	0Ω	70416		
42	Peaking Coil	1.5Ω		70418		
43	Osc. Coil	1Ω	6Ω	39892		
44	Input IF	8Ω	8Ω	70411	16-5740	Original Part No. M-922226-3
45	Output IF	15Ω	15Ω	70412		Original Part No. 922226-4

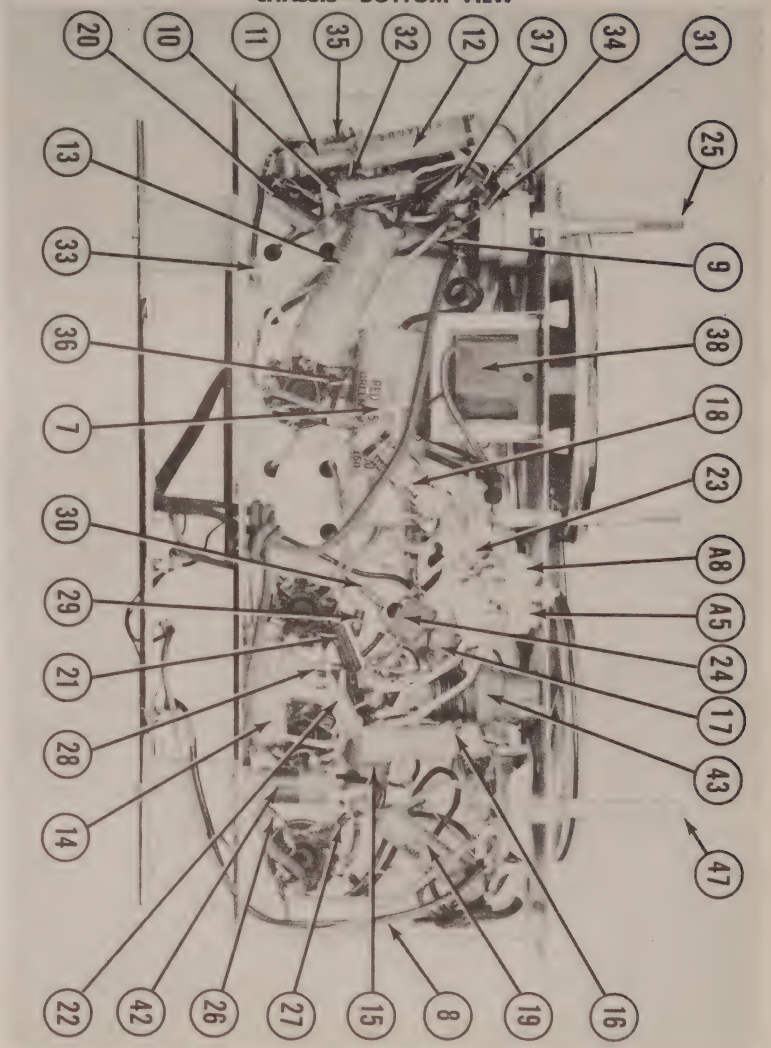
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					RCA PART No.		
46	Min. Bayonet	6-8	0.2	White	11765		Type #51

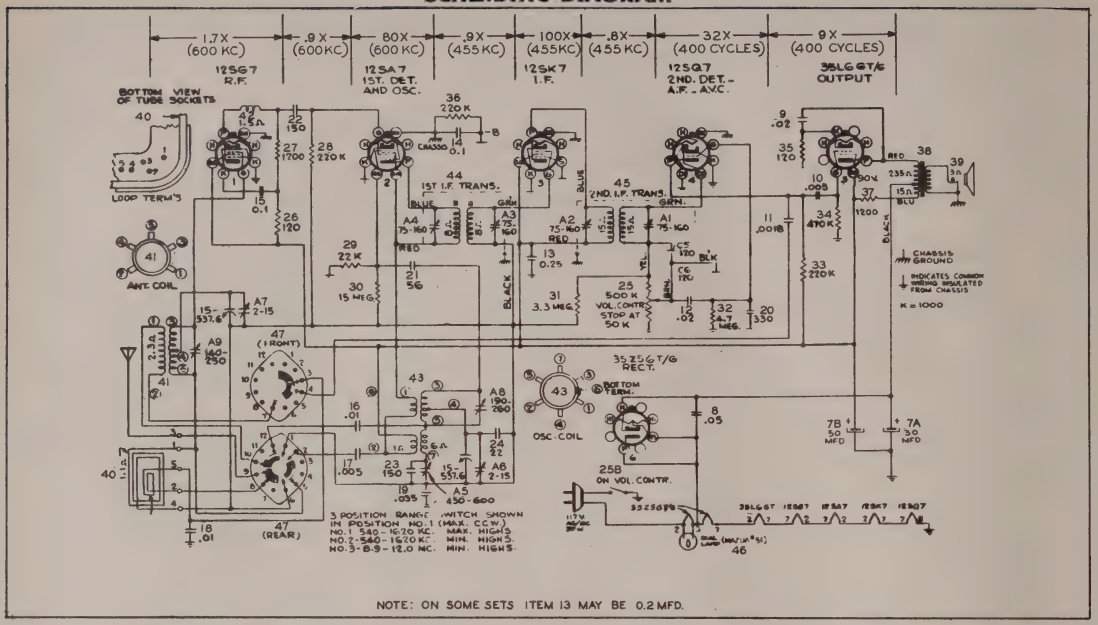
MISCELLANEOUS

ITEM No.	PART NAME	RCA PART No.	NOTES
47	Tone-Band SW.	39837	
A5	Padder	39839	Broadcast 600 KC Padder 450-600 MMF.
A6	Trimmer		Broadcast Osc.(Part of 70700) 2-15 MMF.
A7	"		Broadcast Ant.(Part of 70700) 2-15 MMF.
A8	"		Short Wave Osc.(Part of 39839) 190-260 MMF.
A9	"	70417	Short Wave Antenna 140-250 MMF
	Tuning Cap.	70700	2 Gang Capacitor with Trimmers A6,A7
	Dial Scale	71310	Glass
	Indicator	37068	Station Selector
	Dial Clamp	36890	Left Hand
	"	36891	Right Hand
	Knob	36886	Tone-Band Switch
	"	36722	Tuning
	"	71281	Volume Control

CHASSIS—BOTTOM VIEW



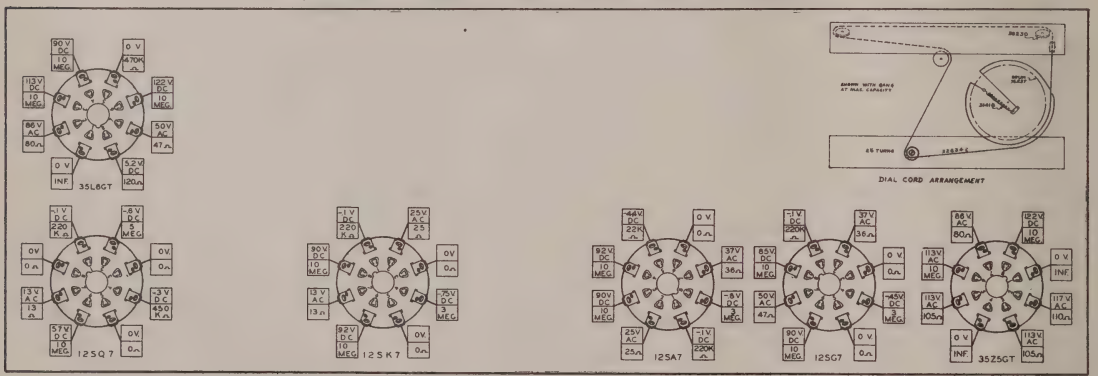
SCHEMATIC DIAGRAM


1.7X (600 KC) 12SG7 R.F.
.9X (600KC)
80X (600 KC) 12SA7 1ST. DET. AND OSC.
.9X (455KC)
100X (455KC) 12SK7 I.F.
.8X (455 KC)
32X (400 CYCLES) 12SQ7 2ND. DET.- A.F. - AVC.
9X (400 CYCLES) 35L6GT/E OUTPUT
BOTTOM VIEW OF TUBE SOCKETS
LOOP TERM'S
ANT. COIL
1ST I.F. TRANS.
2ND. I.F. TRANS
OSC. COIL
35Z5GT/G RECT.
500 K VOL. CONTR. STOP AT 50 K
25B ON VOL. CONTR.
3 POSITION RANGE SWITCH SHOWN IN POSITION NO. 1 (MAX. CCW.)
NO. 1 540 - 1620 KC. MAX. HIGHS
NO. 2 540 - 1620 KC. MIN. HIGHS
NO. 3 8.9 - 12.0 MC. MIN. HIGHS
CHASSIS GROUND
INDICATES CONNECTION INSULATED FROM CHASSIS
K = 1000
7B + 50 MFD
7A + 30 MFD
DIAL CORD ARRANGEMENT

NOTE: ON SOME SETS ITEM 13 MAY BE 0.2 MFD.

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3 Volt battery bias substituted for measurements.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values make possible a variation of + 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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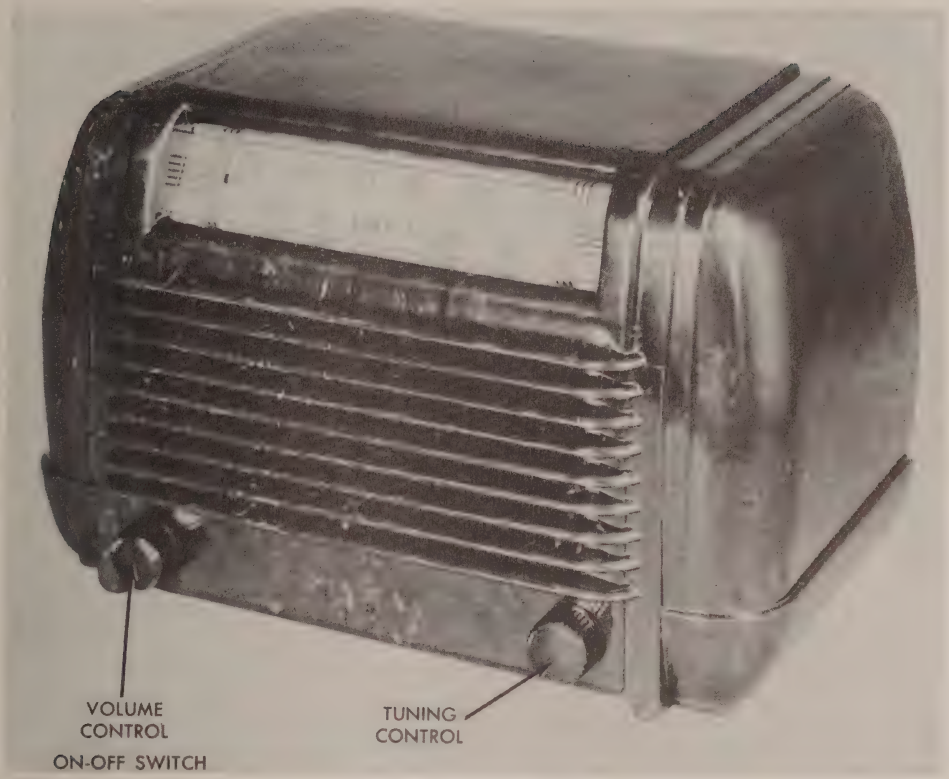
FADA
605, 606 SERIES



FADA MODEL 605W

TRADE NAME	Fada, Models 605 and 606 Series
MANUFACTURER	Fada Radio & Electric Co., Inc. - 30-20 Thomson Avenue- Long Island City, New York
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (FIVE)	Types 12SA7GT 1stDet.-Osc., 12SK7GT IF Amp. 12SQ7GT 2ndDet.-AVC-1AF, 50L6GT Power Output, 35Z5GT Rectifier
POWER SUPPLY	117 Volts AC-DC Rating .250 Amp. at 117 Volts AC
TUNING RANGE—BROADCAST	528-1680KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA *	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.001 MFD	High side to signal grid of 12SA7. Low side to chassis.	456KC	Quiet point at 1600KC end of dial.	Across voice coil	A1,A2, A3	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between signal generator lead and chassis of receiver.
	Loop	1500KC	1500KC	"	A4	Adjust for maximum output. Connect signal generator to loop of few turns of wire and couple loosely to receiver loop by spacing.
	"	"	"	"	A5	" " "

Volume control at maximum and signal generator output as low as possible for all adjustments. Use insulated alignment screwdriver. Check dial calibration by turning rotors to full mesh and dial pointer should be over extreme left mark on dial back plate.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		FADA PART No.	STANDARD REPLACEMENT		
1	Mixer	12SA7GT	12SA7GT	8AD	
2	IF Amp.	12SK7GT	12SK7GT	8N	
3	Det-AVC-AF	12SQ7GT	12SQ7GT	8Q	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	FADA PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	
6(A)	40	150	22.4	TN129	DSB 40/30/20-150	TA-430	PRS150-40-40	E242215	Filter - Blue
(B)	30	150							Filter - Red
(C)	20	150				UT-201	PRS150-20		Filter - Yellow
7	.05	400	12.12	TP426	S-4-05	TC-15	484-.05	DT4S5	Line Filter
8	.03	400	12.9	TP424	S-4-03	TC-13	484-.03	DT4S3	50L6 Plate Bypass
9	.01	400	12.6	TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
10	.005	600	12.4	TP408	S-6-005	TC-25	684-.005	DT6D5	"
11	.05	200	12.11	TP426	S-4-05	TC-15	484-.05	DT4S5	12SK7 Cath. Bypass
12	.05	200	12.11	TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
13	250	500	17.8	MC240	M0.5-325	1FM-325	1468-.00025	SW5T25	12SQ7 Plate Bypass
14	100	500	17.5	MC235	M0.5-31	1FM-31	1468-.0001	SW5T1	12SA7 Osc. Grid Cond.

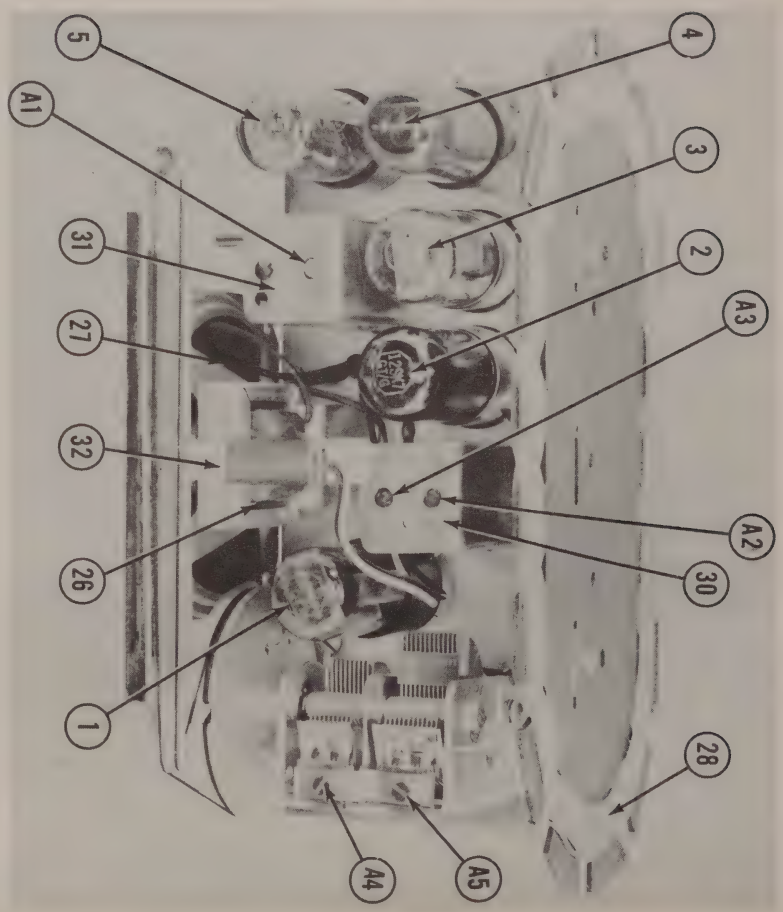
CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	FADA PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	
15(A)	500KΩ	1	52.2	MR-48	DS13-133	M-60-Z	
(B)	Switch			M26	41	SW-A	Attach to 15A per instructions.

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	FADA PART No.	IRC PART No.	
16	22KΩ	½	32.13	BTS-22K	Red-Red-Or. Osc. Grid
17	100Ω	½	32.2	BW-½-100	Br.-Blk.-Br. IF Cathode
18	1 Meg.	½	32.23	BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
19	3.9 Meg.	½	32.26	BTS-3.9 Meg.	Or.-Wh.-Grn. 1st AF Grid
20	220KΩ	½	32.18	BTS-220K	Red-Red-Yl. Plate Load
21	470KΩ	½	32.20	BTS-470K	Yl.-Vi.-Yl. Output Grid
22	130Ω	½	32.3	BW-½-130	Br.-Or.-br. Output Cathode
23	200Ω	1	32.27	BW-1-200	Red-Blk.-Br. Filter
24	1200Ω	1	32.29	BTA-1200	Br.-Red-Red Filter
25	30Ω	1	117.1	BW-1-30	Or.-Blk.-Blk. Line Dropping

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		FADA PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
26	2150Ω	3.4Ω	190Ω	.69Ω	42.1	A3676†	T13842†	6775*	*Bend Mounting tabs down and file out holes. Mount same as original transformer. †Improvision of new mounting bracket is necessary.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			FADA PART No.	JENSEN PART No.	UTAH PART No.	
27	FIELD PM	VC IMP. 3.4Ω	107.4	ST-540*	4FY*	*Improvision is necessary for mounting the escutcheon in the same position as originally used.
	CONE DIA. 4"	VC DIA. ½"	NOT REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

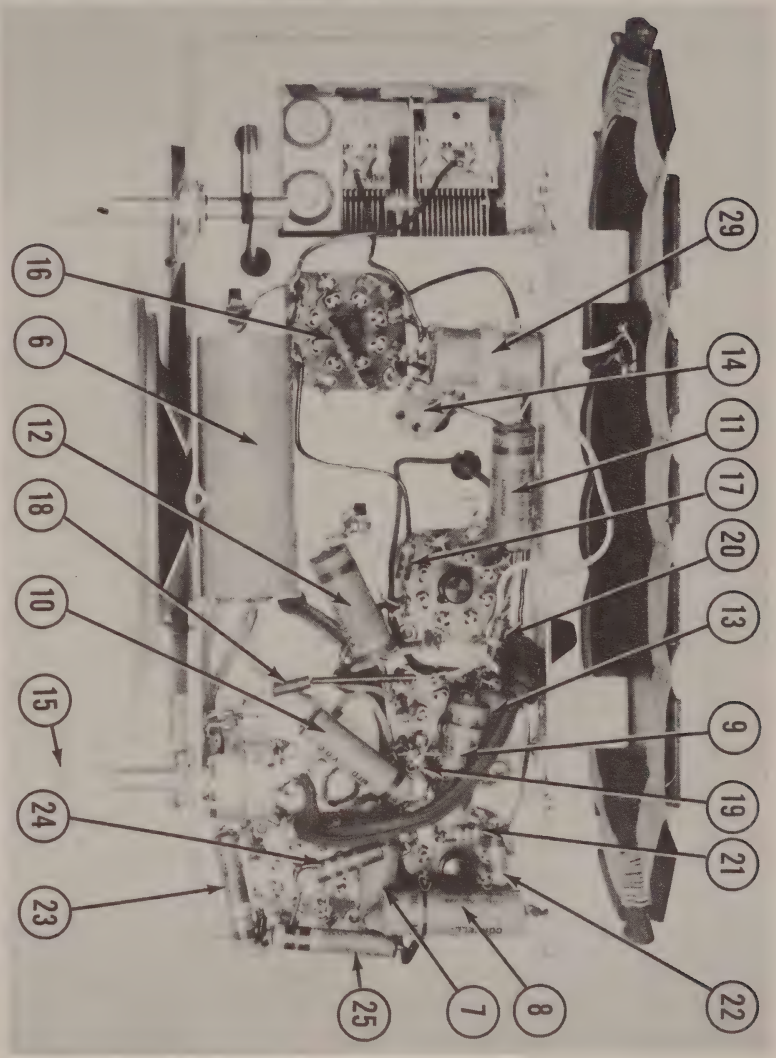
R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	FADA PART No.	MEISSNER PART No.	
28	Loop Ant.	1.2Ω		37.9		
29	Osc.	.5Ω	5Ω	37.1		
30	Input IF	20Ω	20Ω	37.3	16-6658	
31	Output IF	25Ω	25Ω	37.11		

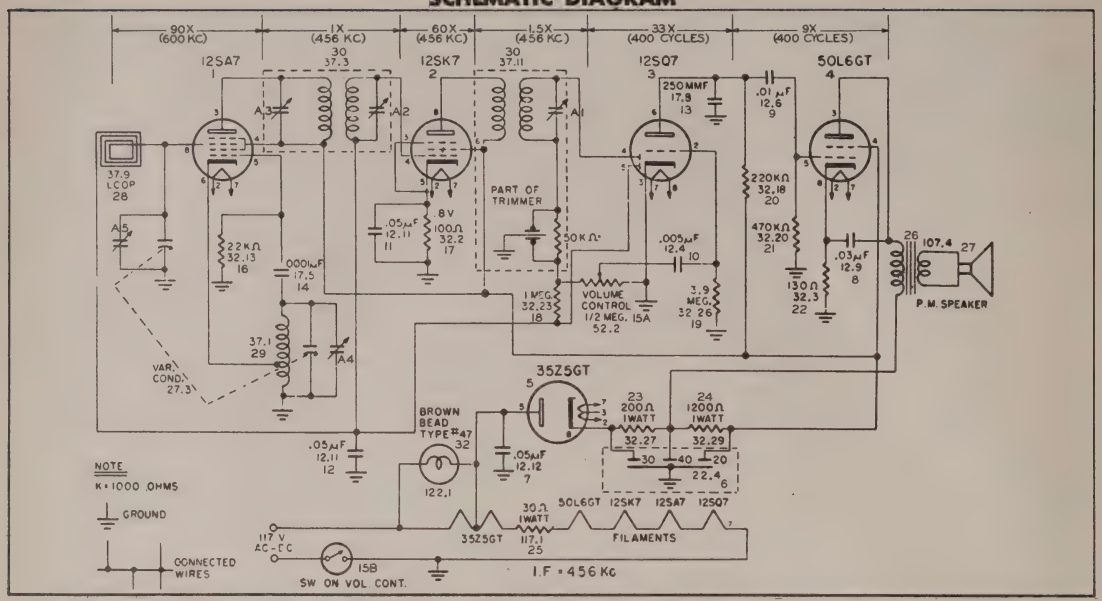
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					FADA PART No.		
32	Min. Bayonet	6-8	0.15	Brown	122.1		#47

CHASSIS—BOTTOM VIEW



SCHEMATIC DIAGRAM



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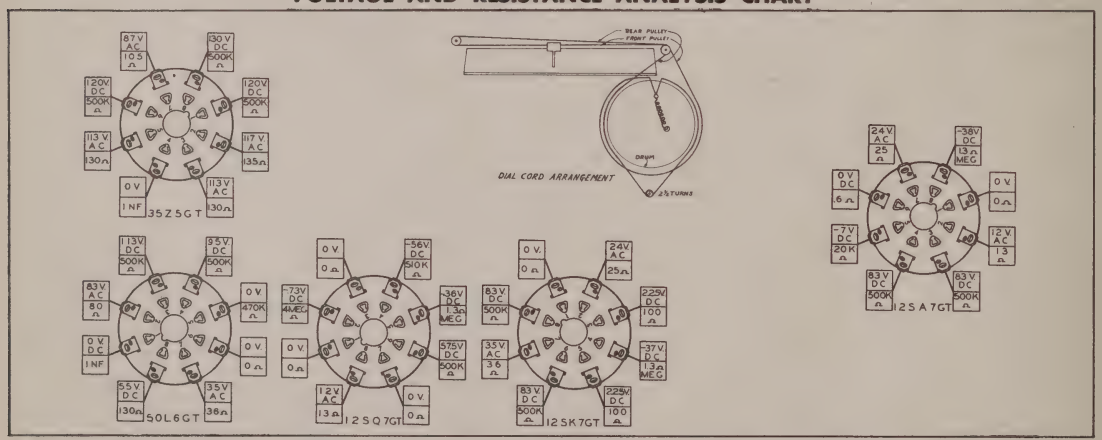
VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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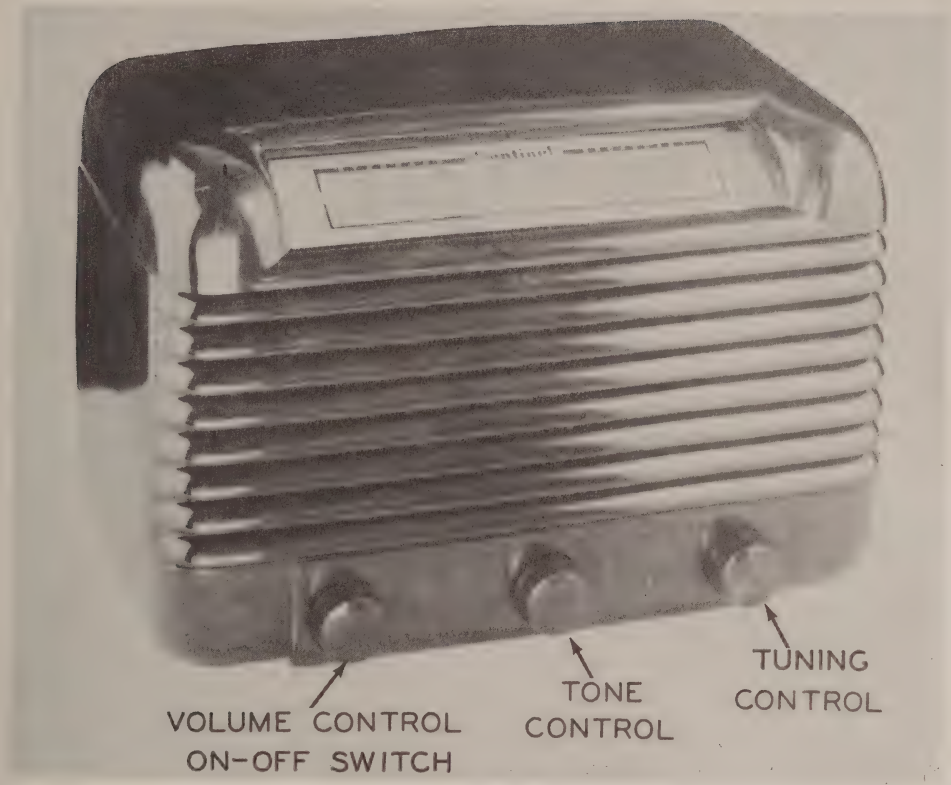
SENTINEL
MODEL 293 SERIES



SENTINEL MODEL 293W

SENTINEL
MODEL 293 SERIES

TRADE NAME	SENTINEL, Models 293I, 293T, 293W, 1U-293I, 1U-293T, 1U-293W
MANUFACTURER	Sentinel Radio Corp., 2020 Ridge Ave., Evanston, Ill.
TYPE SET	AC-DC Superheterodyne - Self Contained Loop Antenna
TUBES (SIX)	Types 12SK7 RF Amp., 12SA7 Osc.-Mod., 12SK7 IF Amp., 12SQ7 Det.-AVC-AF, 35A5 Power Output, 35Z5GT Rectifier.
POWER SUPPLY	117 Volts AC-DC Rating .25C Amp. at 117 Volts AC
TUNING RANGE—BROADCAST	540 KC - 1650KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.2MFD	High side to signal grid of 12SA7. Low side to common neg.	455KC	Any point of no interfering signal.	Across voice coil	A1,A2 A3,A4	Adjust for maximum output. Use isolation transformer if available. If not isolating capacitor must be connected between signal generator ground lead and receiver common neg. Also decrease dummy ant. to .001 MFD to prevent excessive hum modulation.
.0002 MFD.	To loop external antenna and grnd.	455KC	Extreme low end of band (max. cap.)	"	A5	Adjust for minimum output.
"	"	1650KC	Extreme high end of band (min. cap.)	"	A6	Adjust for maximum output.
"	"	1400KC	Approx.1400KC	"	A7	" " " "

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA SENTINEL PART No.	REPLACEMENT DATA STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	12SK7	12SK7	8N	
2	Osc.-Mod.	12SA7	12SA7	8R	
3	IF Amp.	12SK7	12SK7	8N	
4	Det.-AVC-AF	12SQ7	12SQ7	8Q	
5	Power Output	35A5	35A5	8AA	
6	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA SENTINEL PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7(A)	30	150	25E6	2N520	DHN-2X50-150	TA-430	PRS 150-40-40	BRD4415	Filter - Yellow
(B)	40	150							" - Red
8(A)	30	150	25E6	2N520	DHN-2X50-150	TA-430	PRS 150-40-40	BRD4415	" - Yellow
(B)	40	150							" - Red
9	.05	400	23E416	TP426	S-4-05	TC-15	484-.05	DT4S5	Line Bypass
10	.01	400	23E411	TP421	S-4-01	TC-11	484-.01	DT4S1	35A5 Plate
11	.005	400	23E408	TP408	S-6-005	TC-25	484-.005	DT6D5	Audio Coupling
12	.002	400	23E405	TP405	S-6-002	TC-22	484-.002	DT6D2	Tone Control
13	.005	400	23E408	TP408	S-6-005	TC-25	484-.005	DT6D5	Audio Coupling
14	.01	200	23E211	TP421	S-4-01	TC-11	484-.01	DT4S1	RF Screen
15	.2	400	23E421	TP429	S-4-2	TC-2	484-.2	DT4P2	Line Isolating*
16	.05	200	23E216	TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
17	100	500	23E39	MCB235	MOS.5-31	1FM-31	1469-.0001	5R5T1	12SQ7 Plate
18	100	500	23E39	MCB235	MOS.5-31	1FM-31	1469-.0001	5R5T1	Vol. Cont. Bypass
19	250	500	23E42	MC240	MO.5-325	1FM-325	1468-.00025	5W5T25	Diode Bypass
20	50	500	23E37	MC225	MO.5-45	1FM-45	1468-.00005	5W5Q5	Oscillator Grid
21	250	500	23E42	MC240	MO.5-325	1FM-325	1468-.00025	5W5T25	RF Coupling

* In Underwriters Approved Models Only

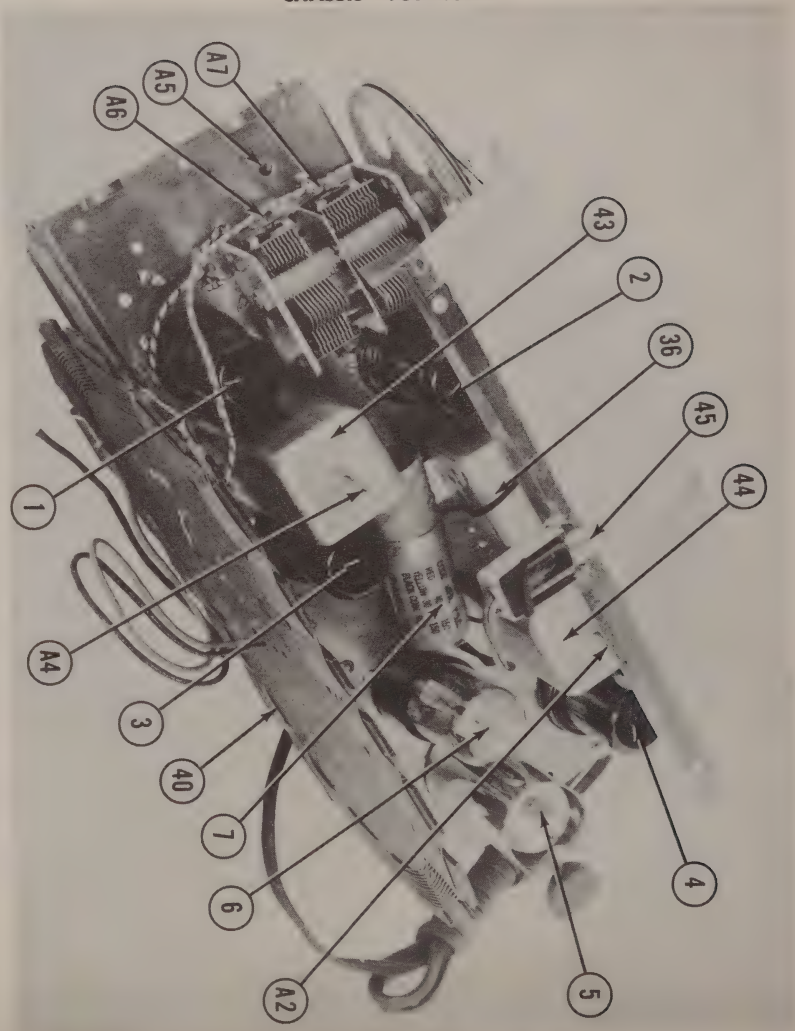
CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA SENTINEL PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
22(A)	500KΩ	1	23E7	MK401*	D13-133*	AM-60-Z*	*See Installation Notes 1&2
(B)	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 22A per instructions
(C)	Switch		" "	M26	41	SW-A	" " "
23(A)	500KΩ	1	23E8	MK401*	D13-133*	AM-60-Z*	*See Installation Note 2
(B)	Shaft		Not Req.	Not Req.	E		Attach to 23A per instructions
	Inst. Note 1 -		Install a 50KΩ resistor in series with the right hand terminal of the control and the lead connecting to the same terminal of the original control. Control viewed from shaft side, terminals down.				
	Inst. Note 2 -		Wrap scotch tape around shaft adjacent to lock ring for drive cord surface.				

RESISTORS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA SENTINEL PART No.	REPLACEMENT DATA IRC PART No.	IDENTIFICATION CODES
24	47KΩ	1/3	27E473	BTS-47K	Yl.-Vl.-Or. Screen Dropping
25	8200Ω	1/3	27E822	BTS-8200	Gray-Red-Red Plate Dropping
26	220KΩ	1/3	27E224	BTS-220K	Red-Red-Yl. Mixer Grid Bias
27	22KΩ	1/3	27E223	BTS-22K	Red-Red-Or. Oscillator Grid
28	3.3 Meg.	1/3	27E335	BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
29	3.3 Meg.	1/3	27E335	BTS-3.3 Meg.	Or.-Or.-Grn. 1st AF Grid
30	470KΩ	1/3	27E474	BTS-470K	Yl.-Vl.-Yl. Plate Load
31	470KΩ	1/3	27E474	BTS-470K	Yl.-Vl.-Yl. Output Grid
32	150Ω	1/3	27E151	BW-½-150	Br.-Grn.-Br. Output Cathode
33	1000Ω	1	27E10Ω-3	BTA-1000	Br.-Blk.-Red Filter
34	47Ω	1/3	27E470-2	BW-½-47	Yl.-Vl.-Blk. Rectifier Ballast
35	100Ω	1/2	27E101-2	BW-½-100	Br.-Blk.-Br. Pilot Light Ballast
36	220KΩ	1/3	27E224	BTS-220K	Red-Red-Yl. Line Isolating (Used in Underwriters approved models only.)

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		SENTINEL PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
37	4565Ω	3.57Ω	248Ω	.93Ω	22E8	A3876	T13S42	8775	Requires new mtg. hole.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			SENTINEL PART No.	JENSEN PART No.	UTAH PART No.	
	FIELD	VC IMP.				
38	PM-Oval	3.57Ω	1E1	None	None	
	CONE DIA.	VC DIA.				
39	6"x4"	¼"	NOT REPLACEABLE - USE COMPLETE SPEAKER UNIT			

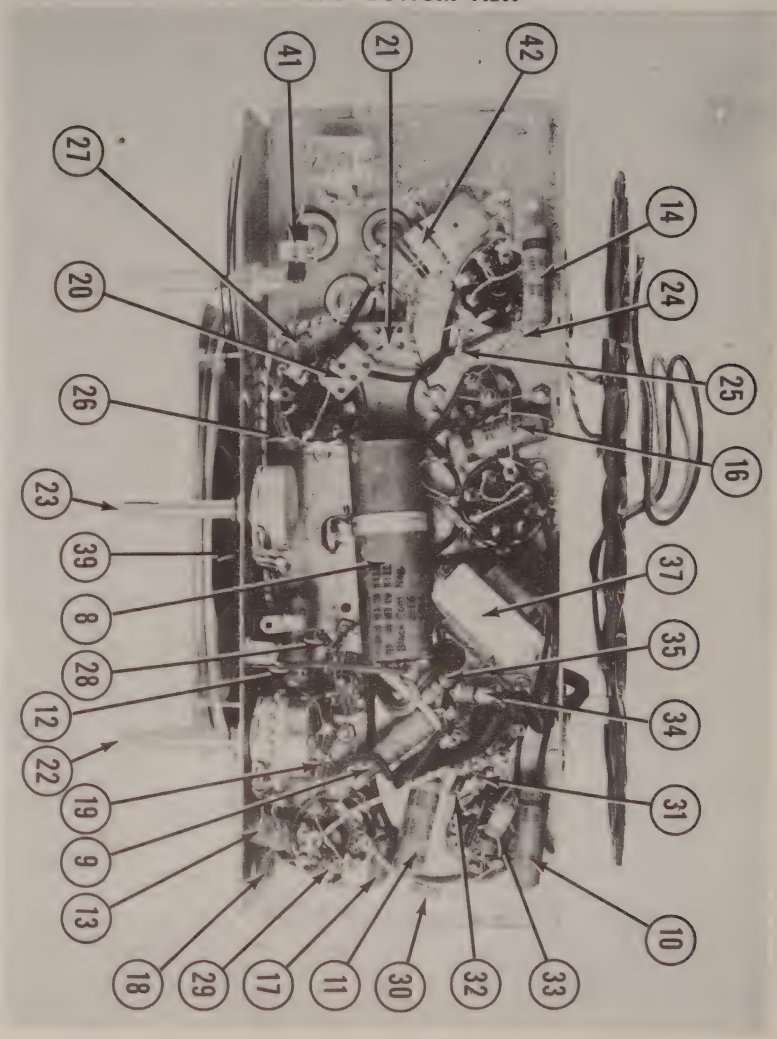
R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	SENTINEL PART No.	MEISSNER PART No.	
40	Ant. Loop	0Ω	.5Ω	64E3		
41	RF Choke	50Ω		2E19		
42	Osc.	.5Ω	8.5Ω	20E64		
43	Input IF	11Ω	11Ω	20E21	16-5740	
44	Output IF	11Ω	10Ω	20E22	16-5742	

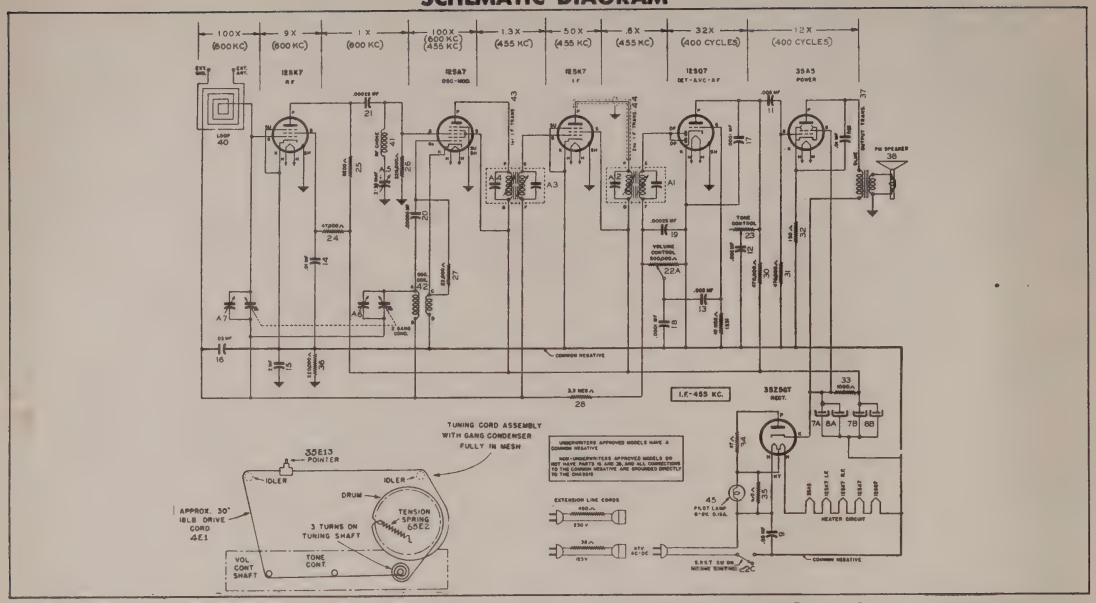
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					SENTINEL PART No.		
45	Min. Bayonet	6-8	0.15	Brown	40E1		Mazda #47

CHASSIS—BOTTOM VIEW



SCHEMATIC DIAGRAM



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VOLTAGE AND RESISTANCE ANALYSIS CHART

1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of + 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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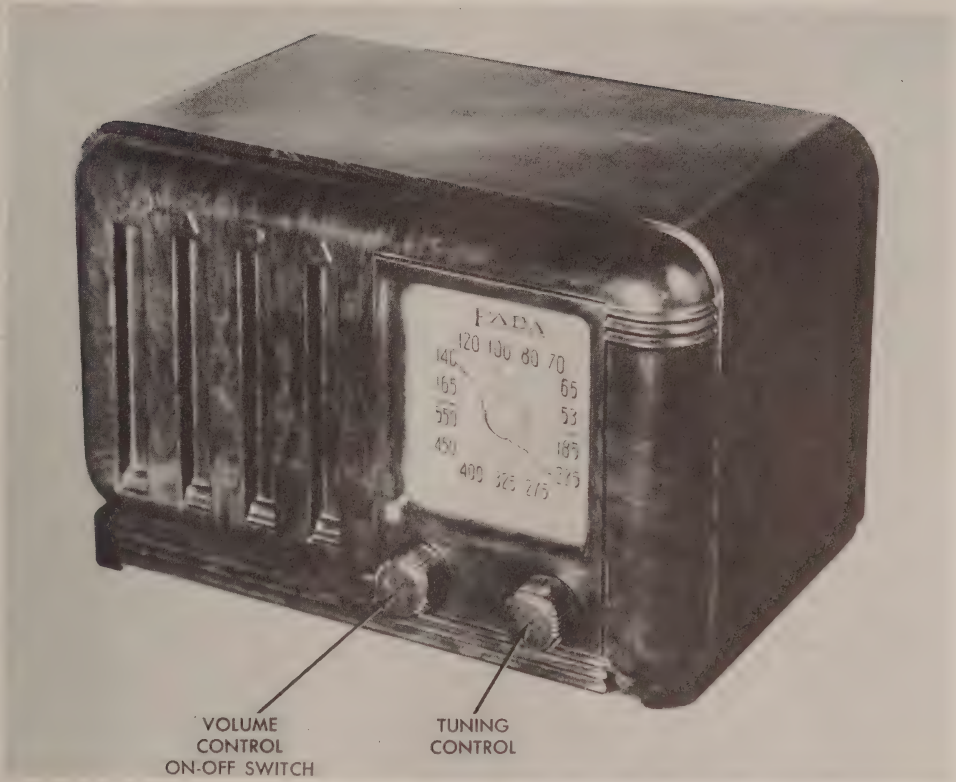
FADA
MODELS 609, 610 SERIES



FADA MODEL 609W

TRADE NAME	Fada, Models 609, 610 Series
MANUFACTURER	Fada Radio & Electric Co. Inc. - 30-20 Thomson Ave. - Long Island City, New York
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (FIVE)	Types 12SA7GT/G Mixer, 12SK7GT/G IF Amp., 12SQ7GT/G Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier
POWER SUPPLY	117 Volts AC-DC Rating .245 Amp., @ 117 Volts AC
TUNING RANGE—BROADCAST	528-1680 KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA *	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.001	High side to signal grid of 12SA7. Low side to chassis	456KC	Quiet point at high end of dial	Across voice coil	A1, A2 A3	Adjust for maximum output. See Note A
	Loop	1680KC	Full C.C.W. (min. cap.)	"	A4	Adjust for maximum output. See Note B
	"	1400KC	Tune to signal	"	A5	Adjust for maximum output See Note B

Note A - Use isolation transformer if available. If not, isolating capacitor must be connected between receiver chassis and signal generator ground lead.

Note B - Connect signal generator to loop of few turns of wire and couple loosely to receiver loop by spacing.

Volume control at maximum volume and output from signal generator as low as possible for all adjustments. Use insulated alignment screwdriver.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		FADA PART No.	STANDARD REPLACEMENT		
1	Mixer	12SA7GT/G	12SA7GT/G	8AD	
2	IF Amp.	12SK7GT/G	12SK7GT/G	8N	
3	Det.-AVC-AF	12SQ7GT/G	12SQ7GT/G	8Q	
4	Power Output	50L6GT/G	50L6GT/G	7AC	
5	Rectifier	35Z5GT/G	35Z5GT/G	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	FADA PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	
6(A)	40	150	22.1	FP357	DY-3X40-150	EL-340	AF844D	UP6CJ44	■ Filter
(B)	30	150							▲ "
(C)	20	150							- "
7	.05	400	12.12	TF426	S-4-05	TC-15	484-.05	DT4S5	Line Bypass
8	.03	400	12.9	TF424	S-4-03	TC-13	484-.03	DT4S3	50L6 Plate Bypass
9	.02	400	12.8	TF423	S-4-02	TC-12	484-.02	DT4S2	Audio Coupling
10	.005	600	12.4	TP408	S-6-005	TC-25	684-.005	DT6D5	" "
11	.05	200	12.11	TF426	S-4-05	TC-15	484-.05	DT4S5	12SK7 Cath. Bypass
12	.05	200	12.11	TF426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
13	250	500	17.8	MC240	MOS.5-325	1FM-325	1468-.00025	5W5T25	12SQ7 Plate Bypass
14	100	500	17.5	MCB235	MOS.5-31	MS-31	1469-.0001	5R5T1	Osc. Grid Cond.

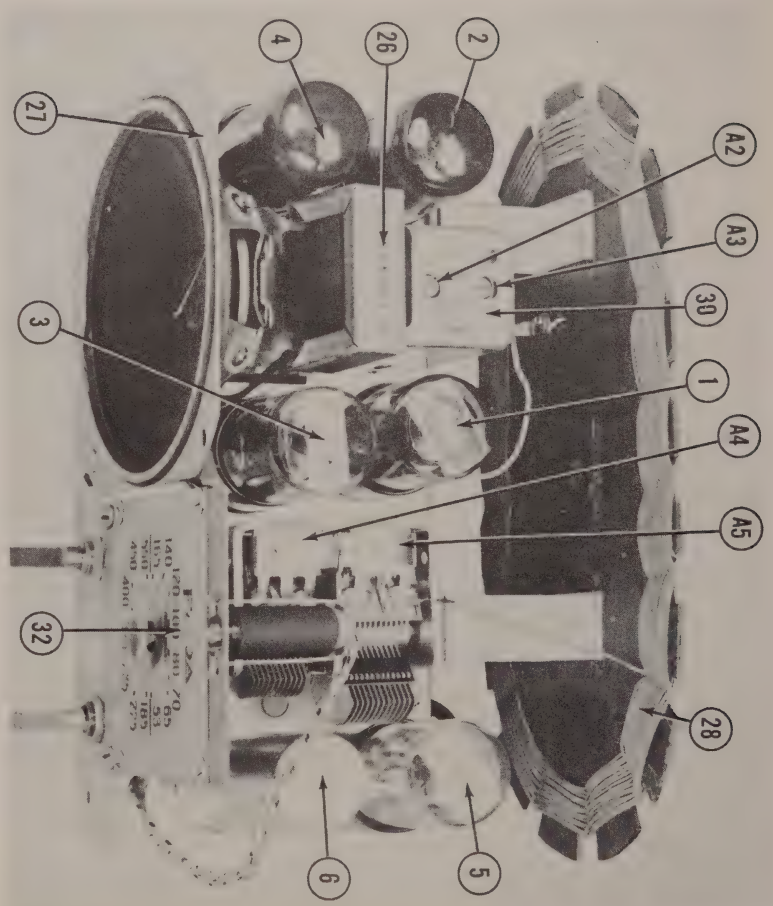
CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	FADA PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	
15(A)	500K	1	52.1	MR48	DS13-133	M-60-Z	Volume
(B)	Switch		Not Req.	M26	41	SW-A	Attach to 15A per instr.

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	FADA PART No.	IRC PART No.	
16	22KΩ	½	32.13	BTS-22K	Red-Red-Or. Osc. Grid
17	100Ω	½	32.2	BW-½-100	Br.-Blk.-Br. IF Cathode
18	1 Meg.Ω	½	32.23	BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
19	3.9 Meg.	½	32.26	BTS-3.9 Meg.	Or.-Wh.-Grn. 1st AF Grid
20	220KΩ	½	32.18	BTS-220K	Red-Red-Yl. Plate load
21	470KΩ	½	32.20	BTS-470K	Yl.-Vi.-Yl. Output Grid
22	130Ω	½	32.3	BW-½-130	Br.-Or.-Br. Output Cathode
23	200Ω	1	32.27	BW-1-200	Red-Blk.-Br. Filter
24	1200Ω	1	32.29	BW-1-1200	Br.-Red-Red Filter
25	30Ω	1	117.1	BW-1-30	Or.-Blk.-Blk. Line Dropping

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING IMPEDANCE PRI.	RATING IMPEDANCE SEC.	RATING DC RES. PRI.	RATING DC RES. SEC.	REPLACEMENT DATA FADA PART No.	REPLACEMENT DATA STANCOR PART No.	REPLACEMENT DATA THORDAR'N PART No.	REPLACEMENT DATA UTAH PART No.	INSTALLATION NOTES
26	2370Ω	3.95Ω	162Ω	.71Ω	42.1	A3876#	T13S42#	S775*	# Mounting Bracket must be fabricated. * Bend mounting tabs down and mount by original bracket.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA FADA PART No.	REPLACEMENT DATA JENSEN PART No.	REPLACEMENT DATA UTAH PART No.	INSTALLATION NOTES
27	FIELD MM CONE DIA. 4"	VC IMP. 3.95Ω VC DIA. ⅛"	107.11 401M	ST-540	4PZ	Special cone adjustment feature. Replace with duplicate part.

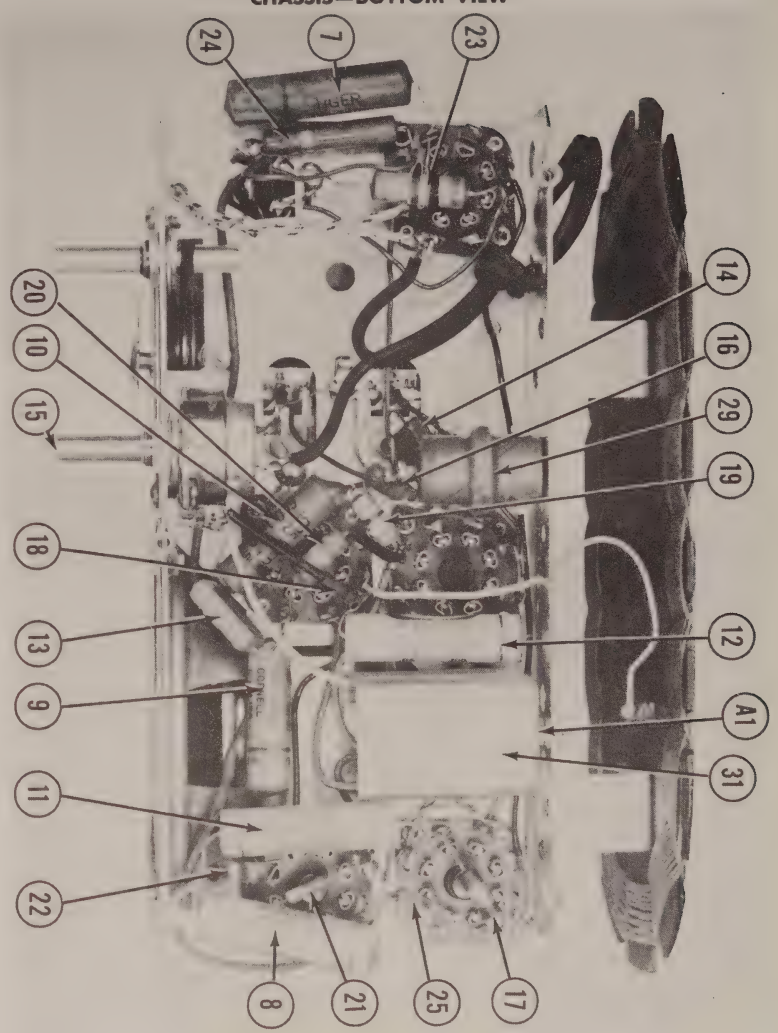
R F COILS

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA FADA PART No.	REPLACEMENT DATA MEISSNER PART No.	INSTALLATION NOTES
28	Loop Ant.	1Ω		37.2		
29	Osc.	.5Ω	5Ω	37.1		
30	Input IF	20Ω	20Ω	37.3	16-6658	
31	Output IF	23Ω	23Ω	37.4		

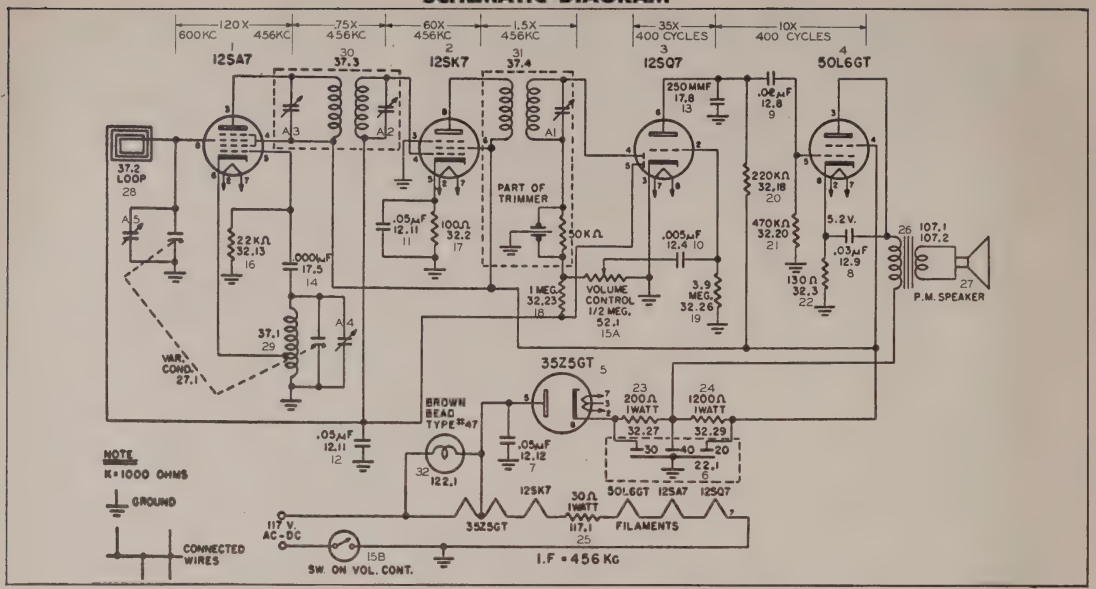
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA FADA PART No.		INSTALLATION NOTES
32	Brown	6-8	0.15	Brown	122-1		#47

CHASSIS—BOTTOM VIEW

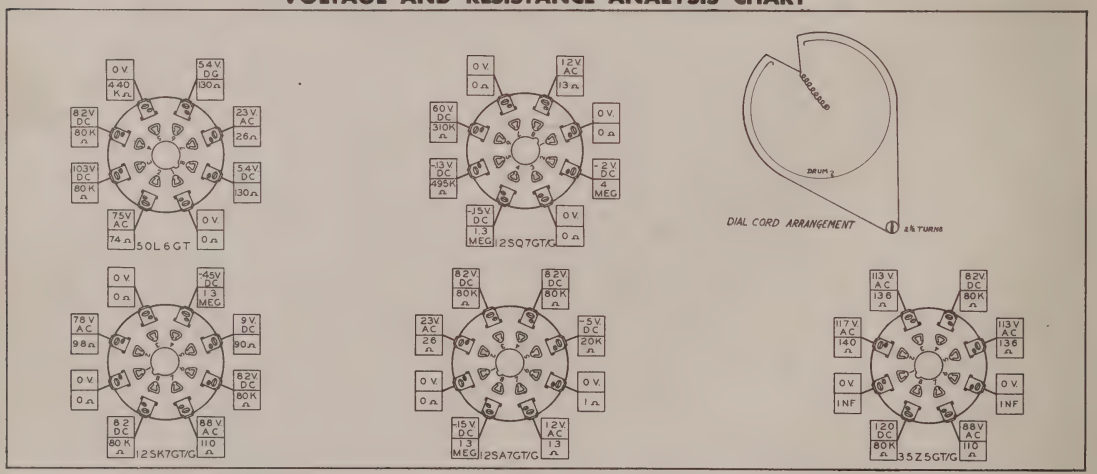


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3 volt battery bias substituted for measurement.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values make possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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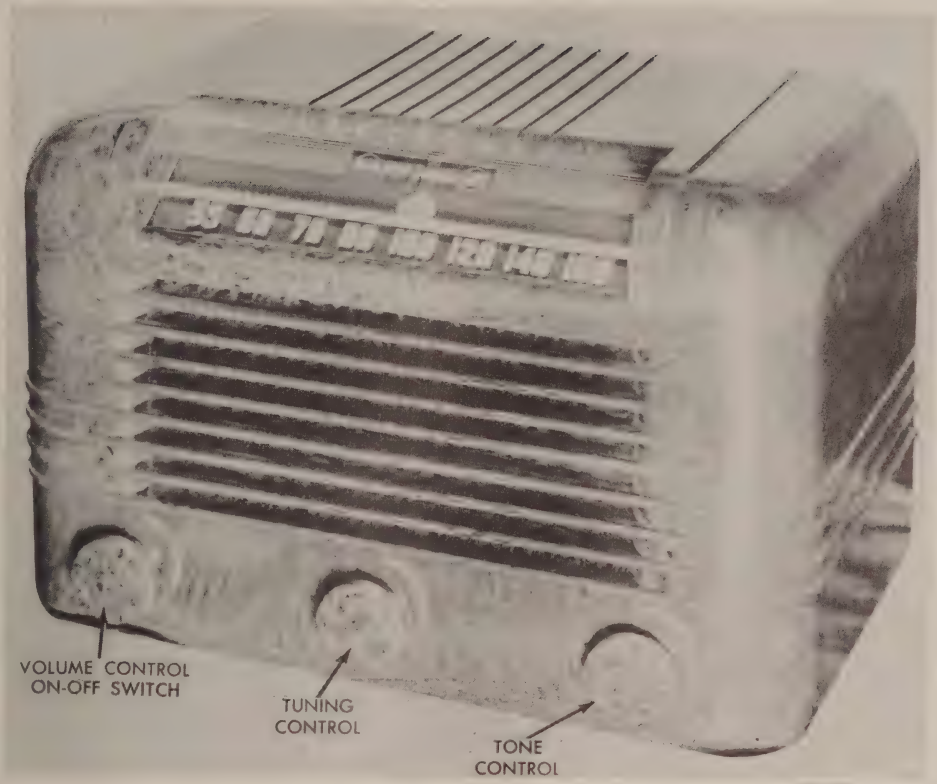
R C A VICTOR
MODELS 56X, 56X2, 56X3



RCA VICTOR MODEL 56X

TRADE NAME	RCA Victor, Models 56X, 56X2, 56X3 (Chassis RC-1011)
MANUFACTURER	Radio Corp. of America, RCA Victor Division - Camden, New Jersey
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (SIX)	Types 12SG7 Converter, 12J5GT Osc., 12SK7 IF Amp., 12SQ7 2nd Det.-AVC-AF, 35L6GT Power Output, 35Z5GT Rectifier
POWER SUPPLY	117 Volts AC-DC Rating .240 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	540-1600KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA *	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.01MFD	High side to stator of rear section of gang. Low side to B-.	455KC	Quiet point at 1600KC end of dial.	Across voice coil.	A1,A2, A3,A4	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between signal generator ground lead and B-. Also decrease dummy ant. to .001MFD to prevent excessive hum modulation.
200MMFD	High side to ant. lead. Low to B-.	1300KC	1300KC	"	A5	Adjust for maximum output.
"	" "	"	"	"	A6	" " " "

Volume control at maximum and output from signal generator as low as possible for all adjustments. Adjust dial pointer by rotating tuning condenser fully counter-clockwise(plates in full mesh). Dial pointer should be over max. cap. mark(Left) on dialback plate. Use insulated alignment screwdriver. for adjusting trimmers.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: RCA PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	12SQ7	12SQ7	8BK	
2	Osc.	12J5GT	12J5GT	6Q	
3	IF Amp.	12SK7	12SK7	8N	
4	2nd Det.-AVC-AF	12SQ7	12SQ7	8Q	
5	Power Output	35L6GT	35L6GT	7AC	
6	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: RCA PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7(A)	50	150	39152		2N520	DHN-2X50-150	TA-530	PRS150-40-40	BRD3S15	Filter - Red
(B)	30	150								Filter - Green
8	.05	400	70615	TP426	S-4-05	TC-15	484-.05	DT4S5	Line Filter
9	.1	400	70617	TP428	S-4-1	TC-1	484-.1	DT4P1	Line Isolating
10	.02	700	70711	TP412	S-6-02	TC-12	684-.02	DT6S2	35L6 Plate
11	.0018	800	70712	TP405	S-6-002	TC-22	684-.002	DT6D2	Tone Control
12	.005	600	70627	TP408	S-6-005	TC-25	684-.005	DT6D5	Audio Coupling
13	.02	700	70711	TP412	S-6-02	TC-12	684-.02	DT6S2	" "
14	.01	1000	70652	TP410	S-6-01	TC-11	684-.01	DT6S1	Osc. Coupling
15	.01	1000	70652	TP410	S-6_01	TC-11	684-.01	DT6S1	12SQ7 Screen Bypass
16	.035	600	70635	TP414	S-6-04	TC-14	684-.03	DT6S4	AVC Filter
17	.01	1000	70652	TP410	S-6-01	TC-11	684-.01	DT6S1	Ant. Coupling
18	330	500	39640	MC243	M0.5-34	1FM-34	1468-.0004	5W5T4	12SQ7 Plate Bypass

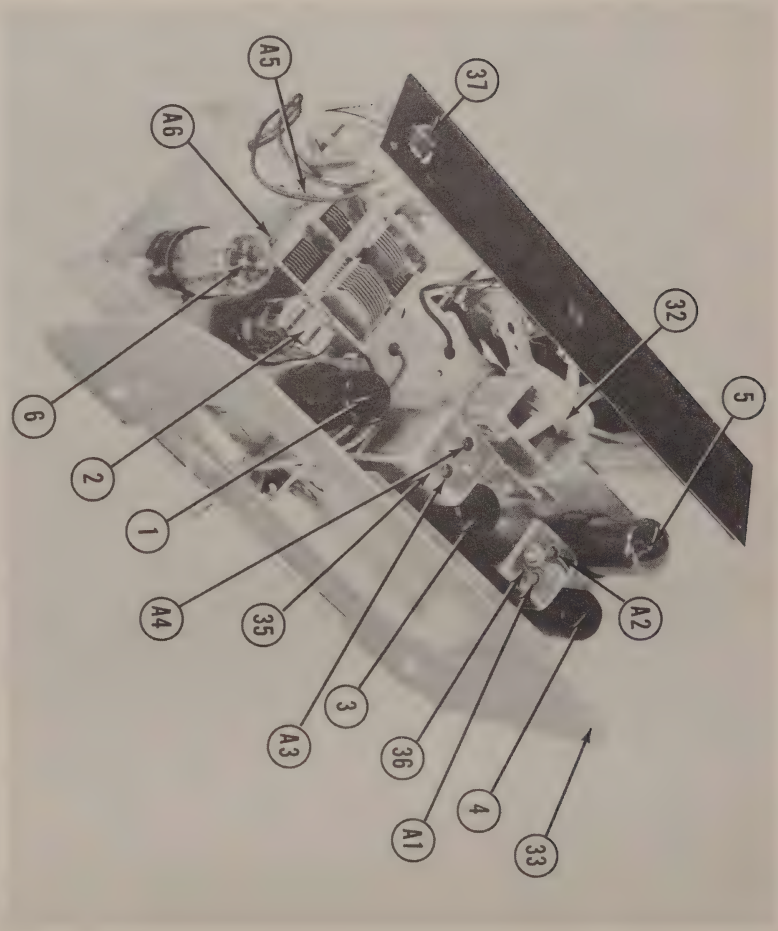
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: RCA PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
19(A)	500KΩ	1	36242	MR4e*	DS13-133*	M-60-Z*	*Install a 50KΩ resistor in series with the right hand terminal of the control and the lead connecting to the same terminal of the original control. (Control viewed from the shaft side, terminals down.)
(B)	Switch		Not Req.	M26T	47	SW-A6	Attach to 19A per instructions.

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: RCA PART No.	IRC PART No.	IDENTIFICATION CODES
20	3300Ω	½	30733	BTS-3300	Or.-Or.-Red Mixer Cathode
21	15 Meg.	½	39785	BTS-15 Meg.	Br.-Grn.-Blue AVC Network
22	22KΩ	½	30492	BTS-22K	Red-Red-Or. Osc. Grid
23	1500Ω	½	30654	BTS-1500	Br.-Grn.-Red Screen Dropping
24	3.3 Meg.	½	12928	BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
25	4.7 Meg.	½	30931	BTS-4.7 Meg.	Yl.-Vi.-Grn. 1st AF Grid
26	220KΩ	½	14583	BTS-220K	Red-Red-Yl. Plate Load
27	120Ω	½	30189	BW-½-120	Br.-Red-br. Output Cathode
28	470KΩ	½	30648	BTS-470K	Yl.-Vi.-Yl. Output Grid
29	1200Ω	½	5134	BTS-1200	Br.-Red-Red Filter
30	220KΩ	½	14583	BTS-220K	Red-Red-Yl. Line Isolating

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		RCA PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
31	2220Ω	3.4Ω	235Ω	.86Ω	36800 (352605)	A3876‡	T13342‡	6775‡	‡When using listed replacements disregard tapped primary which is used in conjunction with 1200Ω resistor for filtering purposes. Drill new mounting holes.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			RCA PART No.	JENSEN PART No.	UTAH PART No.	
32	FIELD PM	VC IMP. 3.4	70413	ST-443‡	5PY‡	Original Part No. 92510-1 ‡When using these units a suitable mounting bracket must be improvised to duplicate speaker position.
	CONE DIA: 4½"	VC DIA. ½"	NOT REPLACEABLE - USE COMPLETE SPEAKER UNIT			

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	RCA PART No.	MEISSNER PART No.	
33	Loop Ant.	0	1Ω	39821		
34	Osc.	2.5Ω	7Ω	39824		
35	Input IF	8Ω	8Ω	70411	16-5740	Original Part No. M922226-3
36	Output IF	15Ω	15Ω	70412		Original Part No. 922226-4

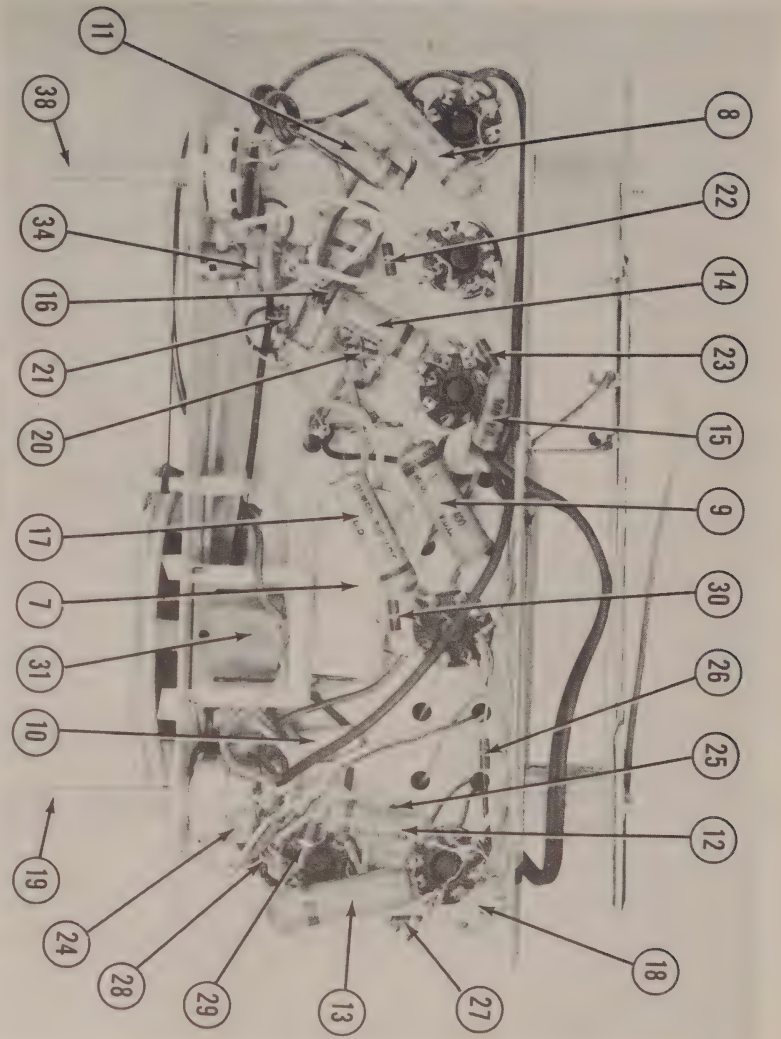
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					RCA PART No.		
37	Min. Bayonet	6-8	0.2	White	11765		Type 51

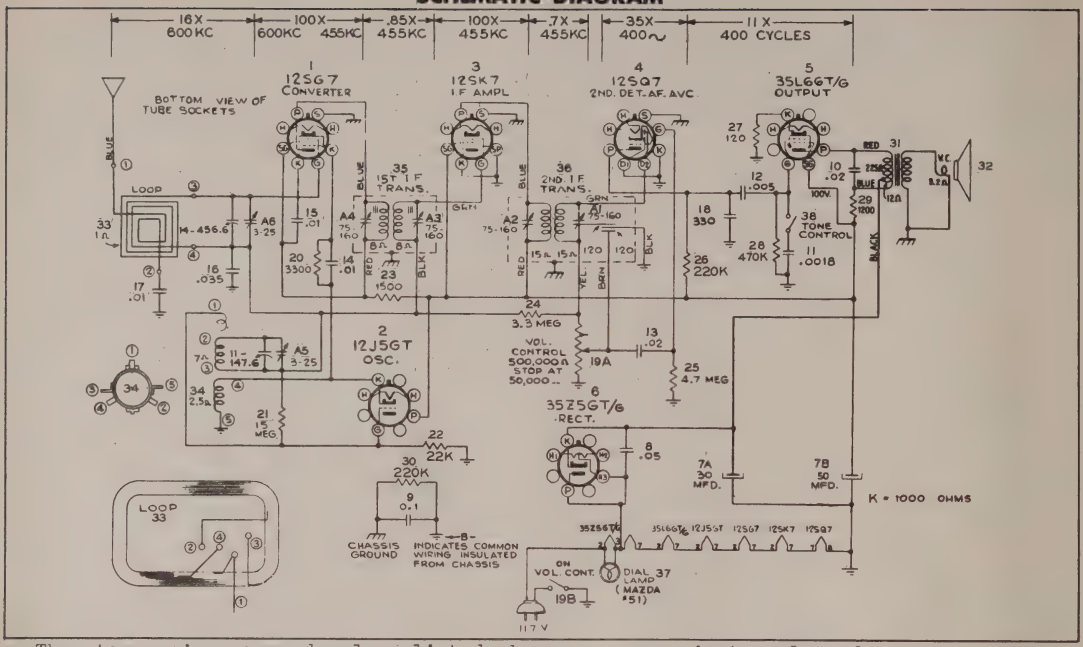
MISCELLANEOUS

ITEM No.	PART NAME	RCA PART No.	NOTES
A5	Trimmer		3-25MMF Part of 36226
A6	"		" " "
	Tun. Cap.	36226	2 Gang Main Tuning Cap {Ant. 14-456MMF {Osc. 11-147MMF
38	Tone Switch	36228	
	Knob	70414	Ivory-for 56X2
	Knob	36722	Walnut-for 56X, 56X3

CHASSIS—BOTTOM VIEW

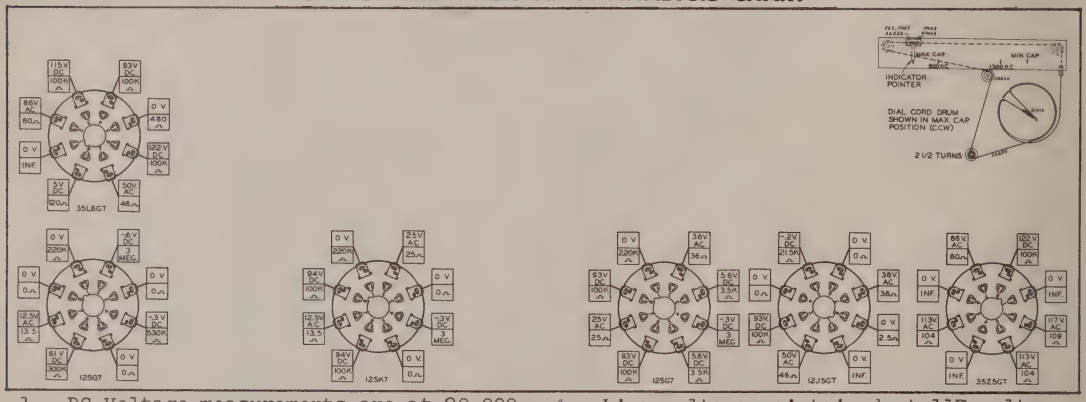


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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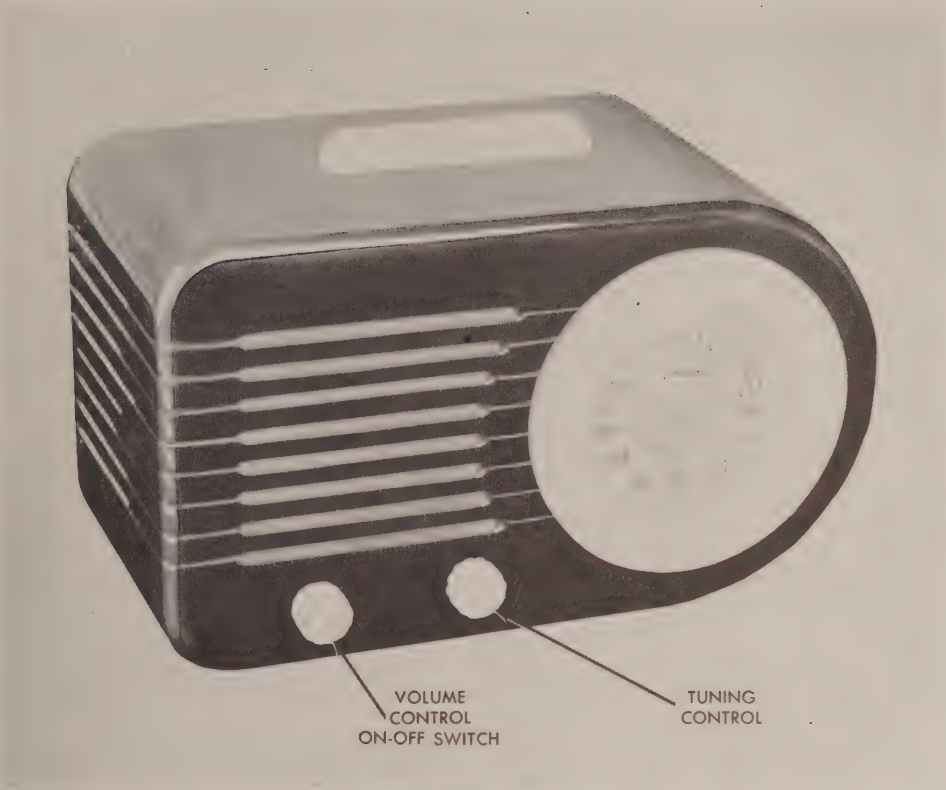


FADA MODEL 1000

TRADE NAME	Fada, Model 1000 Series
MANUFACTURER	Fada Radio & Electric Co., Inc. - 30-20 Thomson Ave. - Long Island City, New York
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (SIX)	Types 12SK7 RF, 12SA7GT/G Mixer, 12SK7GT/G IF Amp., 12SQ7GT/G Det.-AVC-AF, 35L6GT/G Power Output, 35Z5GT/G Rectifier
POWER SUPPLY	117 Volts AC-DC Rating .245 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	528-1680 KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA *	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.001 MFD	High side to signal grid of 12SA7. Low side to chassis.	456KC	Quiet point at high end of band.	Across voice coil.	A1,A2, A3,A4.	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between signal generator ground lead and receiver chassis.
"	High side to signal grid of 12SK7 (R.F.) Low side to chassis.	456KC	528KC (max. cap.)	"	A5	Adjust for minimum output. Use isolation transformer if available. If not, isolating capacitor must be connected between signal generator ground lead and receiver chassis.
"	"	1650KC	1650KC	"	A6	Adjust for maximum output.
"	Loop	1400KC	Tune in 1400KC signal.	"	A7	Adjust for maximum output. Connect signal generator to loop of few turns of wire and couple loosely to receiver loop by spacing (No direct connection).

Volume control at maximum volume and signal generator output just high enough to obtain readable output. Use insulated alignment screwdriver for adjusting.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		FADA PART No.	STANDARD REPLACEMENT		
1	RF Amp.	12SK7	12SK7	6N	
2	Mixer	12SA7GT/G	12SA7GT/G	8AD	
3	IF Amp.	12SK7GT/G	12SK7GT/G	6N	
4	DET.-AVC-AF	12SQ7GT/G	12SQ7GT/G	8Q	
5	Power Output	35L6GT/G	35L6GT/G	7AC	
6	Rectifier	35Z5GT/G	35Z5GT/G	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	FADA PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	
7(A)	40	150	22.1	FP357	DY-3X40-150	EL-340	AF844D	UP6CJ44	▲ Filter
(B)	30	150							■ "
(C)	20	150							"
8	.05	400	12.12	TP426	S-4-05	TC-15	484-.05	DT4S5	Line Filter
9	.03	400	12.9	TP424	S-4-03	TC-13	484-.03	DT4S3	35L6 Plate Bypass
10	.01	400	12.6	TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
11	.005	400	12.4	TP408	S-4-005	TC-25	484-.005	DT6D5	" "
12	.05	200	12.11	TP426	S-4-05	TC-15	484-.05	DT4S5	12SK7 Cath. Bypass
13	.05	200	12.11	TP426	S-4-05	TC-15	484-.05	DT4S5	RF Bypass Pwr. Supp.
14	.05	200	12.11	TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
15	250	500	17.8	MC240	M0.5-325	1FM-325	1468-.00025	5W5T25	Audio Plate Bypass
16	100	500	17.5	MC235	M0.5-31	1FM-31	1468-.0001	5W5T1	RF Coupling
17	100	500	17.5	MC235	M0.5-31	1FM-31	1468-.0001	5W5T1	Osc. Grid Cond.
18	220	500	17.19	MC240	M0.5-325	1FM-325	1468-.00025	5W5T25	RF Bypass Vol. Cont.*

*Not used in initial production

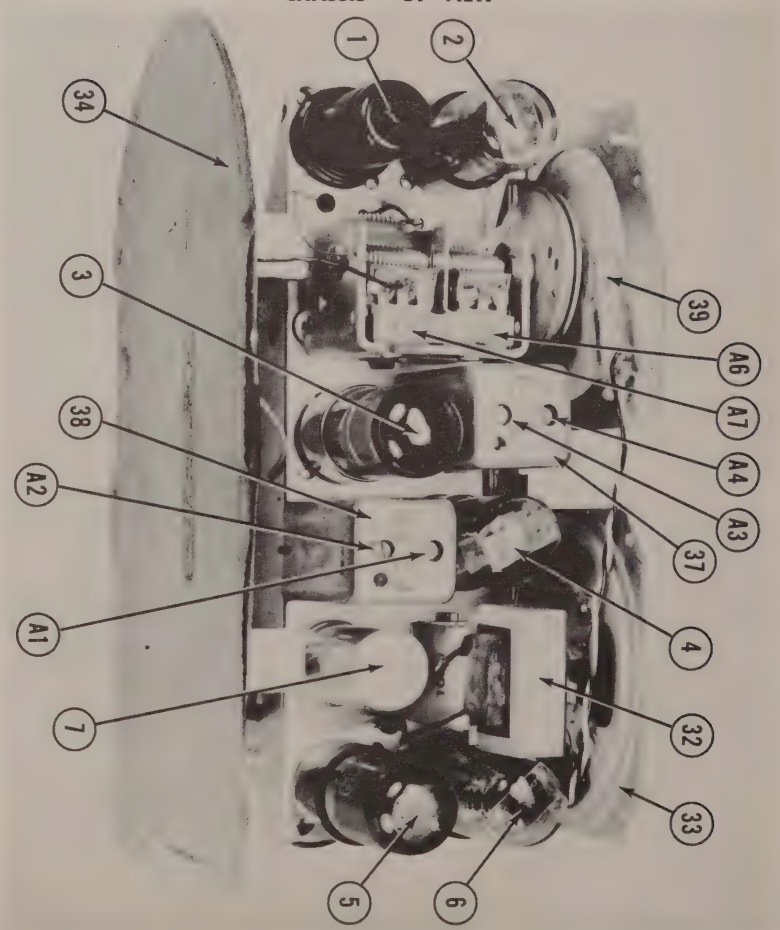
CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	FADA PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	
19(A)	500KΩ	1	52.5	MR48	D13-133	M-60-Z	
(B)	Switch		Not req.	M26	41	SW-A	Attach to 19A per instr.

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	FADA PART No.	IRC PART No.	
20	6800Ω	½	32.10	BTS-6800	Blue-Gray-Red RF Plate Load
21	100KΩ	½	32.17	BTS-100K	Br.-Blk.-Yl. Mixer Grid
22	22KΩ	½	32.13	BTS-22K	Red-Red-Or. Osc. Grid
23	100Ω	½	32.2	BW-½-100	Br.-Blk.-Br. IF Cathode
24	1 Meg.	½	32.23	BTS-1 Meg.	Br.-Blk.-Grn. Diode Load
25	3.9 Meg.	½	32.26	BTS-3.9 Meg.	Or.-Wh.-Grn. 1st AF Grid
26	220KΩ	½	32.18	BTS-220K	Red-Red-Yl. 1st AF Plate Load
27	470KΩ	½	32.20	BTS-470K	Yl.-Vi.-Yl. Output Grid
28	130Ω	½	32.3	BW-½-130	Br.-Or.-Br. Output Cathode
29	200Ω	1	32.27	BW-1-200	Red-Blk.-Br. Filter
30	910Ω	1	32.28	BW-1-910	Wh.-Br.-Br. Filter
31	30Ω	1	117.1	BW-1-30	Or.-Blk.-Blk. Line Dropping

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		FADA PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
32	2370Ω	3.95Ω	162Ω	.71Ω.	42.1	A3876†	T13842†	S775#	†Mounting bracket must be fabricated. #Bend mounting tabs down and mount by original bracket.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			FADA PART No.	JENSEN PART No.	UTAH PART No.	
	FIELD	VC IMP.				
33	PM	3.95Ω	107.1	ST-540	4PZ	
	CONE DIA.	VC DIA.				
	4"	$\frac{1}{2}$"	NOT REPLACEABLE-USE COMPLETE SPEAKER UNIT			

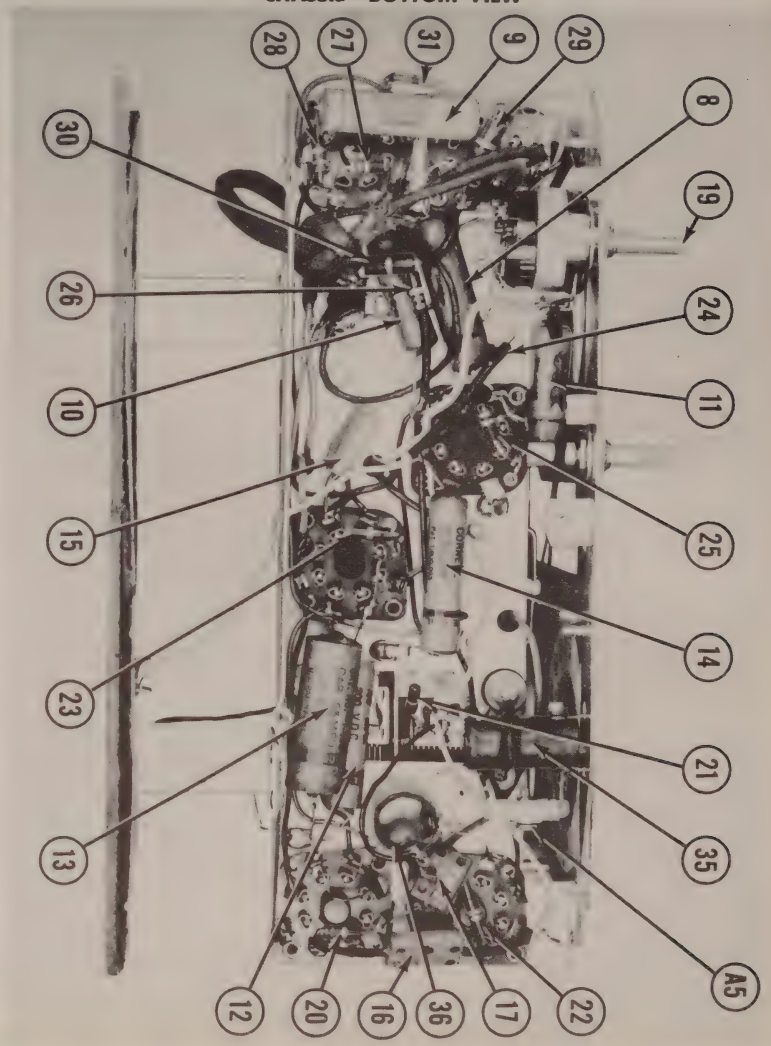
R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	FADA PART No.	MEISSNER PART No.	
34	Loop Ant.	1.5Ω		37.10		
35	Wave Trap	49Ω		37.5		
36	Osc.	.5Ω	5Ω	37.1		
37	Input IF	20Ω	20Ω	37.3	16-6658	
38	Output IF	19Ω	19Ω	37.8		

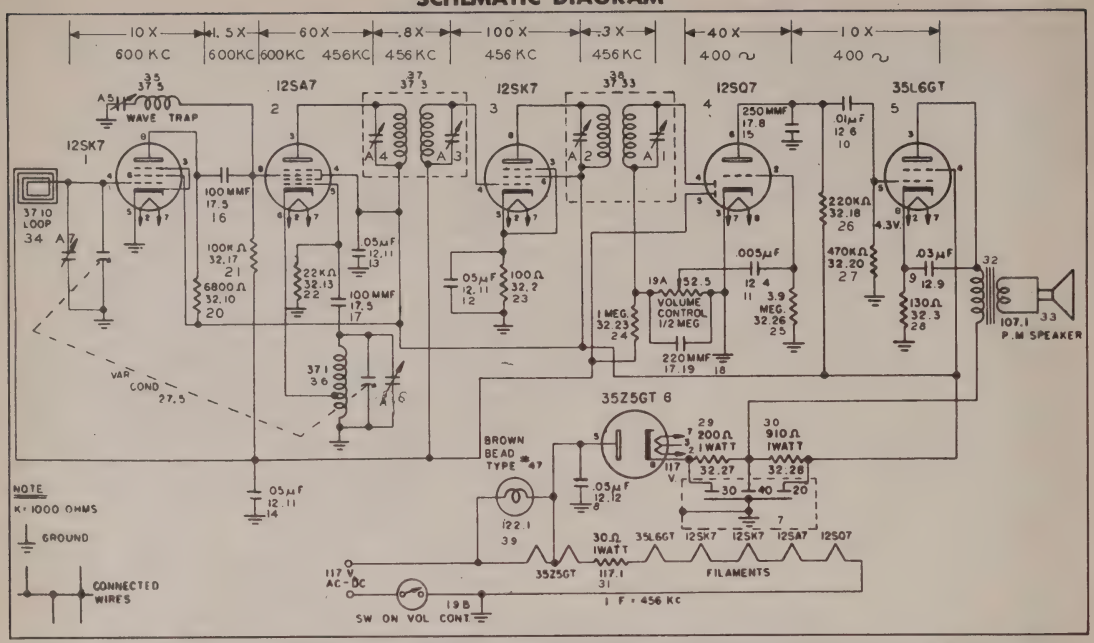
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					FADA PART No.		
39	Min. Bayonet	6-8	0.15	Brown	122.1		#47

CHASSIS—BOTTOM VIEW

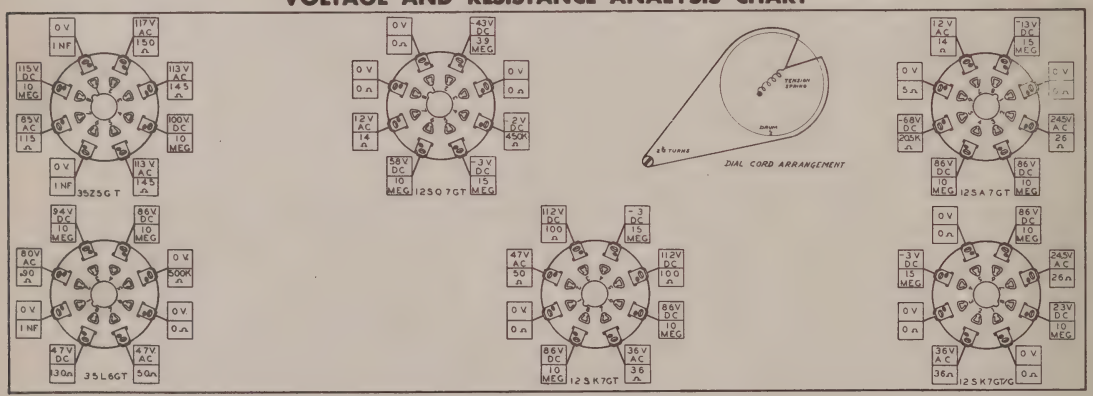


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values make possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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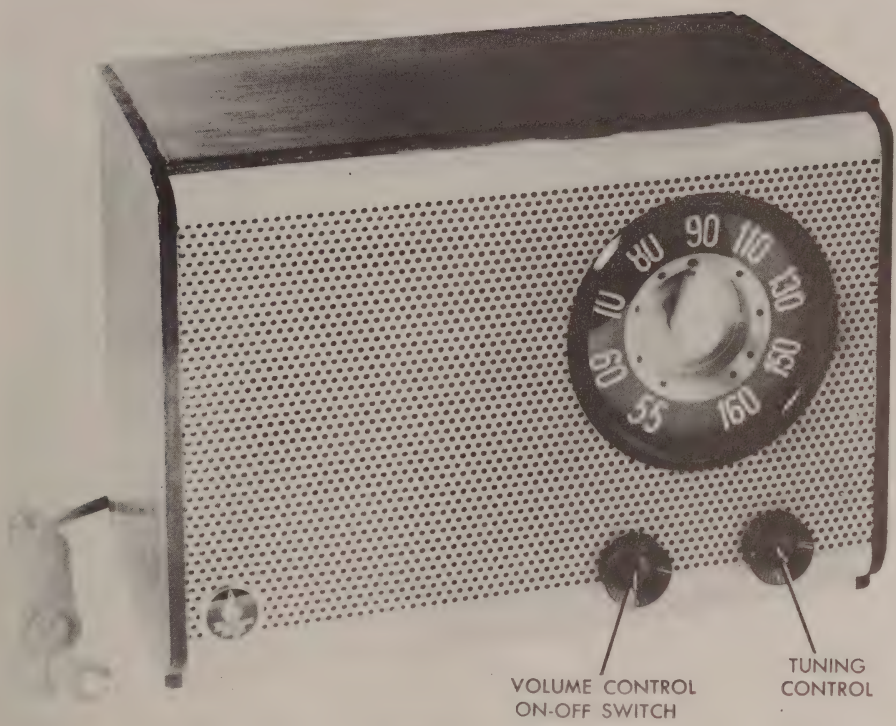
EMERSON
MODEL 503



EMERSON
MODEL 503

EMERSON MODEL 503

TRADE NAME	Emerson, Model 503 (Chassis 120000, 120029)
MANUFACTURER	Emerson Radio & Phonograph Corp. - 111 Eight Avenue - New York 11, New York
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (FIVE)	Types 12SA7 Mixer, 12SK7 IF Amp., 12SQ7 Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier
POWER SUPPLY	117 Volts AC-DC Rating .250 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	540-1620KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA *	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.05MFD	High side to stator of ant. section of tuning cap. Low side to B-.	455KC	High end of dial. (min. cap.)	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. See Note A.
	Loop	1425KC	1425KC	"	A5	Adjust for maximum output. See Note B.
	"	"	"	"	A6	" "
	"	600KC	Tune to 600KC signal.	"		Adjust the loose outside turn of the ant. loop for maximum output. This loose turn may be moved to either side of center. Fasten it in position after adjusting.
	"			"		Repeat adjustments on A5, A6 and the loop till there is no further improvement.

Note A - Use isolation transformer if available. If not, isolating capacitor must be connected between signal generator ground lead and receiver common negative. Also decrease dummy ant. to .001MFD to prevent excessive hum modulation.

Note B - Connect signal generator to loop made of few turns of wire and radiate signal to receiver loop by spacing of at least 15" (no direct connection)

Volume control at maximum volume and output from signal generator adjusted no higher than will give useful reading. Use insulated alignment screwdriver for adjusting.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: EMERSON PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Mixer	12SA7	12SA7	8R	
2	IF Amp.	12SK7	12SK7	8N	
3	DET.-AVC-AF	12SQ7	12SQ7	8Q	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: EMERSON PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6(A)	30	150	925000	2N520	DHN-2X50-150	TA-530	PRS40-40-150	BRD3515	Filter - Red
(B)	50	150							Filter - Green
7	.2	200	920050	TP429	S-4-2	TC-2	484-.2	DT4P2	Line Isolating
8	.05	400	920030	TP426	S-4-05	TC-15	484-.05	DT4S5	Line Filter
9	.02	400	920020	TP423	S-4-02	TC-12	484-.02	DT4S2	50L6 Plate Bypass
10	.02	400	920020	TP423	S-4-02	TC-12	484-.02	DT4S2	Audio Coupling
11	.001	600	920170	TP404	S-6-001	TC-21	684-.001	DT6D1	Audio Plate Bypass
12	.002	600	920010	TP405	S-6-002	TC-22	684-.002	DT6D2	Audio Coupling
13	.1	200	920040	TP428	S-4-1	TC-1	484-.1	DT4P1	AVC Filter
14	.002	600	920010	TP405	S-6-002	TC-22	684-.002	DT6D2	Ant. Coupling
15	220	500	910000	MC240	MO.5-325	1FM-325	1468-.00025	5W5T25	RF Bypass Vol. Cont.

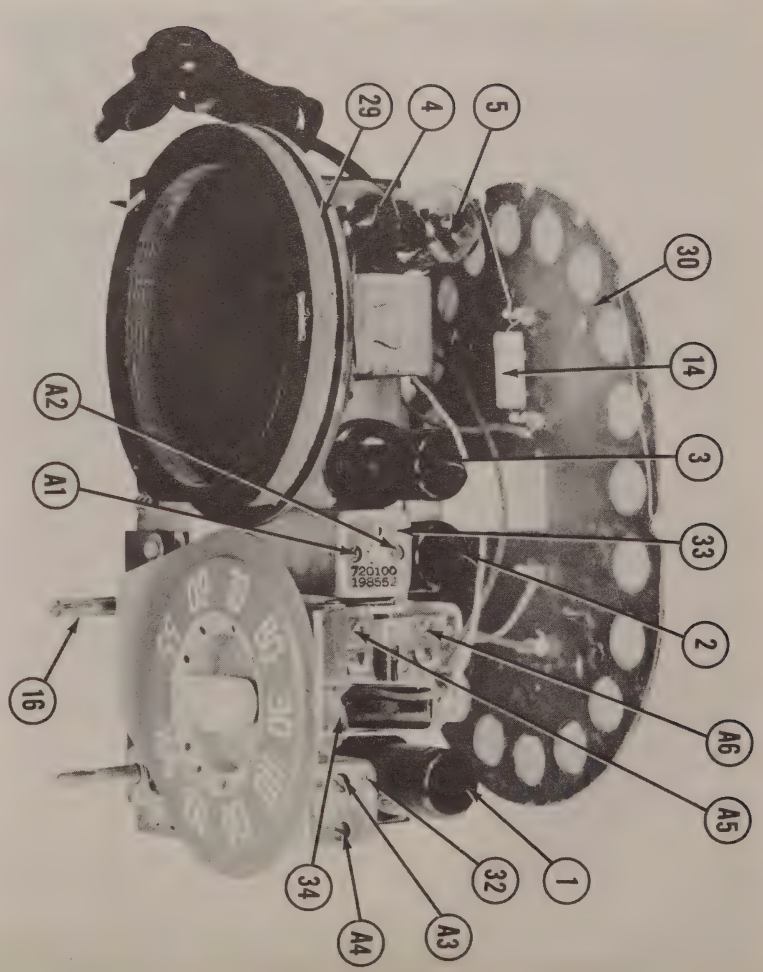
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: EMERSON PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
16(A)	500K	1	390010	UM154	D13-133	AM-60-Z	Volume Control
(B)	Shaft		Not Req.	SS25	E	KSS-3	Attach to 16A per instr.
(C)	Switch		" "	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: EMERSON PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
17	15 Meg.	½	397000	BTS-15 Meg.	Br.-Grn.-Blue AVC Network
18	22KΩ	½	310810	BTS-22K	Red-Red-Or. Osc. Grid
19	3.3 Meg.	½	321330	BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
20	15 Meg.	½	397000	BTS-15 Meg.	Br.-Grn.-Blue 1st AF Grid
21	470KΩ	½	321130	BTS-470K	Yl.-Vi.-Yl.1st AF Plate Load
22	470KΩ	½	321130	BTS-470K	Yl.-Vi.-Yl.Output Grid
23	150Ω	½	340290	BW-½-150	Br.-Grn.-Br. Output Cathode
24	1000Ω	1	370490	BW-1-1000	Br.-Blk.-Red Filter
25	220KΩ	½	321050	BTS-220K	Red-Red-Yl. Line Isolating
26	15Ω	1	397040	BW-1-15	Br.-Grn.-Blk. Rectifier Ballast
27	6.8Ω	½	340010	BW-½-6.8	Blue-Gray-Gold Pilot Light Ballast

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		EMERSON PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
28	2010Ω	3.2Ω	215Ω	.85Ω	734000	A3876*	T-14882*	8775*	* Requires one new mounting hole.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			EMERSON PART No.	JENSEN PART No.	UTAH PART No.	
29	FIELD	VC IMP.	180000	ST-443#	5PZ#	#New mounting bracket must be fabricated.
	PM	3.2Ω				
	CONE DIA.	VC DIA.	NOT REPLACEABLE-USE COMPLETE SPEAKER UNIT.			
	4-5/8"	1/2"				

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	EMERSON PART No.	MEISSNER PART No.	
30	Loop Ant.	0	2.8Ω	700000		May be replaced by 700200
31	Osc.	.5Ω	5.5Ω	716010		
32	Input IF	28Ω	18Ω	720000	16-6658†	†Drill new mounting holes
33	Output IF	23Ω	22Ω	720100	16-6660†	

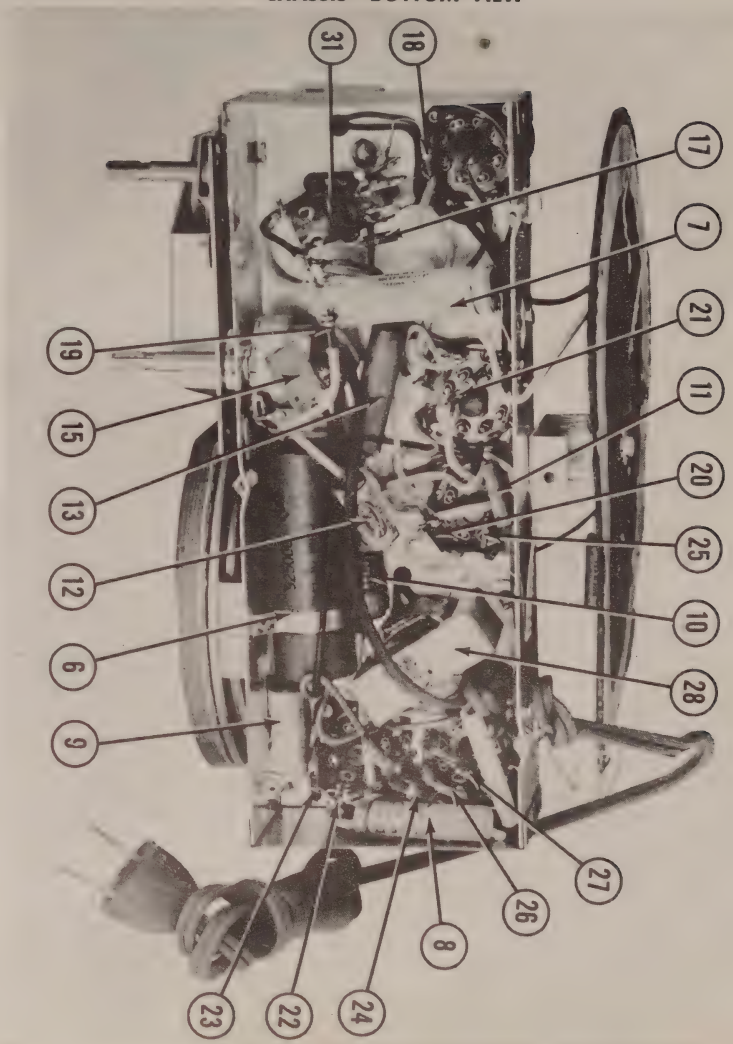
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					PART No.		
34	Min. Bayonet	6-8	0.15	Brown	807000		#47

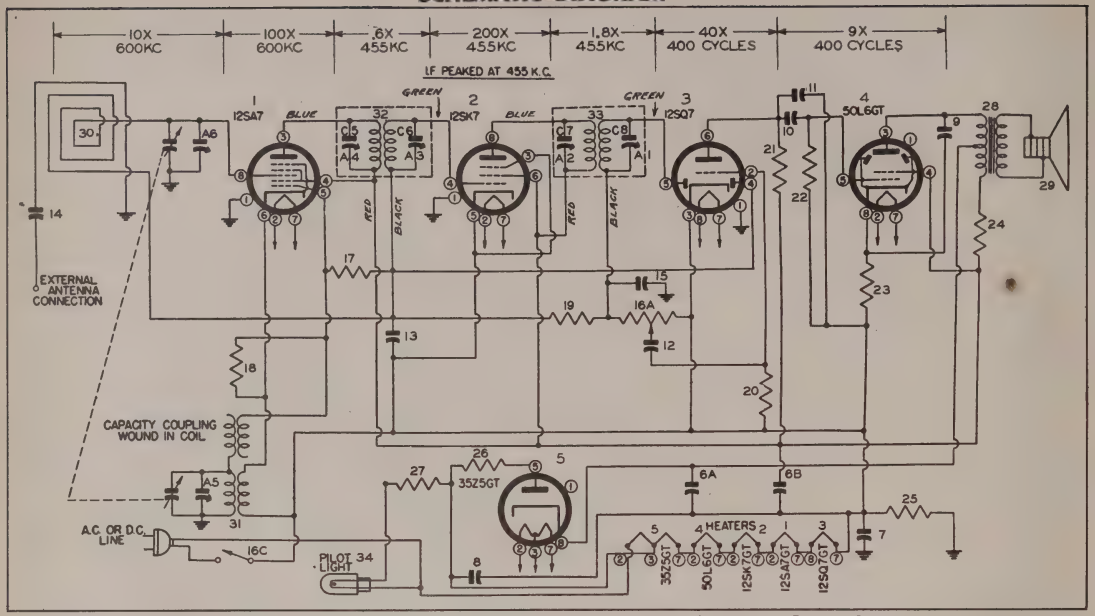
MISCELLANEOUS

ITEM No.	PART NAME	EMERSON PART No.	NOTES
A5	Trimmer		Part of main tuning capacitor
A6	"		
	Tuning Cap.	900170	Two Gang main tuning capacitor (CH.120000)
	" "	900290	" " " " " " (CH.120029)
	" "	900130	" " " " " "
	Dial Pointer	525010	Assembly
	Knob	460140	

CHASSIS—BOTTOM VIEW

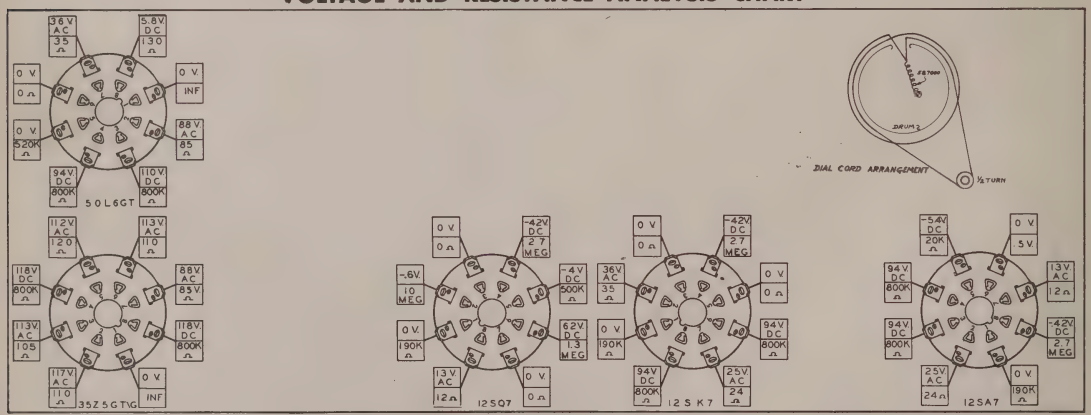


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of + 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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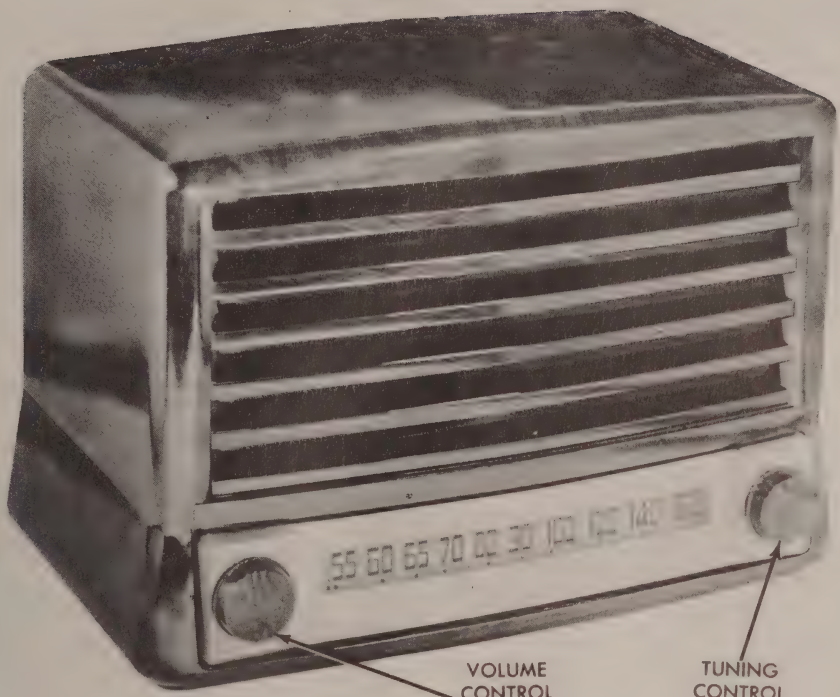
ADMIRAL
MODELS 6T01, 6T05



ADMIRAL
MODELS 6T01, 6T05

ADMIRAL MODEL 6T01

TRADE NAME	Admiral, Models 6T01, 6T05 (Chassis 6A1)
MANUFACTURER	Admiral Corp. - 3800 Cortland St. - Chicago 47, Illinois
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (SIX)	Types 12SJ7 RF Amp., 12SA7 1st DET.-Osc., 12SK7 IF Amp., 12SQ7 2nd Det-AVC-1st Audio, 50L6GT Power Output, 35Z5GT Rectifier
POWER SUPPLY	117 Volts AC-DC Rating .240 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	540-1630KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD	Stator of ant. section of tuning capacitor. Low side to B-.	455KC	High freq. end of dial.	Across voice coil.	A1,A2, A3,A4.	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between signal generator ground lead and receiver B-. Also decrease dummy ant. to .001 MFD to prevent excessive hum modulation.
"	"	1630KC	1630KC	"	A5	" "
"	"	1400KC	Tune in 1400KC signal.	"	A6	" "
	Loop	"	"	"	A7	Adjust for maximum output. Connect output of signal generator to loop of few turns of wire and couple loosely to receiver loop by spacing (no direct connection).

Check setting of dial pointer as shown on dial diagram. Volume control at maximum volume and lowest output from signal generator capable of producing adequate output readings. Use insulated alignment screwdriver in adjusting.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA ADMIRAL PART No.	REPLACEMENT DATA STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	12SJ7	12SJ7	8N	
2	1stDet.-OSC.	12SA7	12SA7	8R	
3	IF Amp.	12SK7	12SK7	8N	
4	DET.-AVC-AF	12SQ7	12SQ7	8Q	
5	Power Output	35L6GT	35L6GT	7AC	
6	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA ADMIRAL PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7(A)	30	150	67A8	TN129	DSB 40/30/20-150	TA-330	PRS150-40-40	EZ42215	Filter - Red 67A8
(B)	30	150							Filter - Yellow
(C)	20	150				UT-201	PRS150-20		Filter - Blue
8	.05	400	64B1-22	TP428	S-4-05	TC-15	484-.05	DT4S5	Line Filter
9	.2	900	64A2-1	TP419	S-3-2	TC-2	1084-.2	DT6P2	Line Isolating
10	.02	400	64B1-24	TP423	S-4-02	TC-12	484-.02	DT4S2	35L6 Plate Bypass
11	.01	400	64B1-25	TP421	S-4-1	TC-11	484-.01	DT4S1	Audio Coupling
12	.01	400	64b1-25	TP421	S-4-1	TC-11	484-.01	DT4S1	" "
13	.01	400	64b1-25	TP421	S-4-1	TC-11	484-.01	DT4S1	Tone Compensation
14	.01	400	64B1-25	TP421	S-4-1	TC-11	484-.01	DT4S1	" "
15	.02	400	64B1-24	TP423	S-4-02	TC-12	484-.02	DT4S2	Osc. Isolating Cond.
16	.05	400	64B1-22	TP428	S-4-05	TC-15	484-.05	DT4S5	RF Decoupling
17	.1	200	64B1-30	TP426	S-4-1	TC-1	484-.1	DT4P1	AVC Filter
18	.005	600	64B1-12	TP408	S-6-005	TC-25	684-.005	DT6D5	Ant. Coupling
19	500	500	65B7-27	MC245	MO.5-35	1FM-35	1468-.0005	5W5T5	Audio Plate Bypass
20	250	500	65B7-22	MC240	MO.5-325	1FM-325	1468-.00025	5W5T25	RF Bypass Vol. Cont.
21	50	500	65B7-11	MC225	MO.5-45	1FM-45	1468-.00005	5W5Q5	Osc. Grid Cond.
22	20	500	65B5-5	MC220	MO.5-425	MS-42	1468-.000025	5W5Q2	Fixed Trimmer
23	250	500	65B7-22	MC240	MO.5-325	1FM-325	1468-.00025	5W5T25	RF Coupling
24	785	500	65B1-8	MCb251	MMS.5-37	MS-38	1479-.0008	2R5T8	Fixed Tuning Cond.

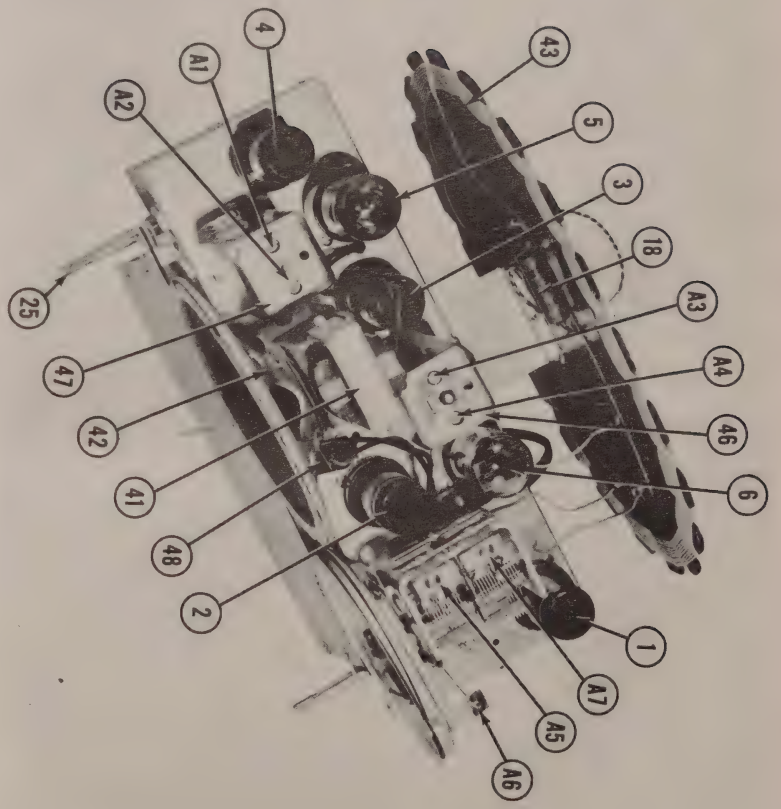
CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA ADMIRAL PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
25(A)	500KΩ	1	75B3-2	DTM283	D18-133XX	AT-92	Volume Control
(B)	Shaft		Not Req.	SS25	E	KSS-3	Attach to 25A per instr.
(C)	Switch		" "	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA ADMIRAL PART No.	IRC PART No.	IDENTIFICATION CODES
26	10KΩ	½	60B8-103	BTS-10K	Br.-Blk.-Or. Grid Load
27	10 Meg.	½	60B8-106	BTS-10 Meg.	Br.-Blk.-Blue AVC Network
28	22KΩ	½	60B8-223	BTS-22K	Red-Red-Or. Osc. Grid
29	100Ω	½	60B8-101	BW-½-100	Br.-Blk.-Br. Plate Decoupling
30	1 Meg.	½	60B8-105	BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
31	47KΩ	½	60B8-473	BTS-47K	Yl.-Vi.-Or. Tone Compensation
32	27KΩ	½	60B8-273	BTS-27K	Red-Vi.-Or.
33	5 Meg.	½	60B8-505	BTS-4.7 Meg.	Grn.-Blk.-Grn. 1st AF Grid
34	270KΩ	½	60B8-274	BTS-270K	Red-Vi.-Yl. 1st AF Plate Load
35	470KΩ	½	60B8-474	BTS-470K	Yl.-Vi.-Yl. Output Grid
36	150Ω	½	60B8-151	BW-½-150	Br.-Grn.-Br. Output Cathode
37	150KΩ	½	60B8-154	BTS-150K	Br.-Grn.-Yl. Line Isolating
38	33Ω	1		BW-1-33	Or.-Or.-Blk. Filter
39	150Ω	1		BW-1-150	Br.-Grn.-Br. Filter
40	1000Ω	1		BW-1-1000	Br.-Blk.-Red Filter

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		ADMIRAL PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
41	2070Ω	3.3Ω	222Ω	.55Ω	Part of 78B4-2	A-3876‡	T-13S42‡	8775*	*Bend mounting tabs down and mount by original bracket. ‡Mounting bracket must be fabricated.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			ADMIRAL PART No.	JENSEN PART No.	UTAH PART No.	
42	FIELD	VC IMP.	78B4-2	ST-443#	5PZ#	#Drill holes in magnet frame and mount as the original speaker, or fabricate new mounting bracket.
	PM 3.3Ω					
	CONE DIA.	VC DIA.	NOT REPLACEABLE-USE COMPLETE SPEAKER UNIT.			
	4-11/16"	1/2"				

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	ADMIRAL PART No.	MEISSNER PART No.	
43	Loop Ant.	0	1Ω	69B4		
44	RF	2Ω		A1052		
45	Osc.	.5Ω	4.5Ω	69A5		
46	Input IF	18Ω	18Ω	72B3	16-5712	
47	Output IF	21Ω	22Ω	72B4	16-5714	

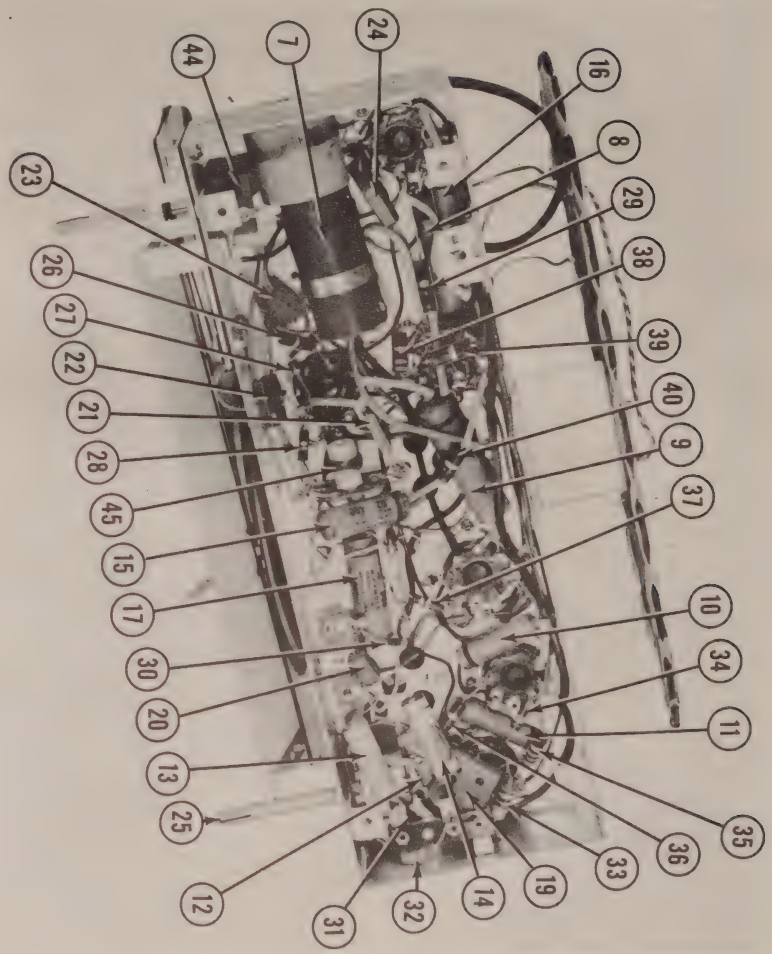
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					ADMIRAL PART No.		
48	Min. Bayonet	6-8	0.15	Brown	81A1-8		#47

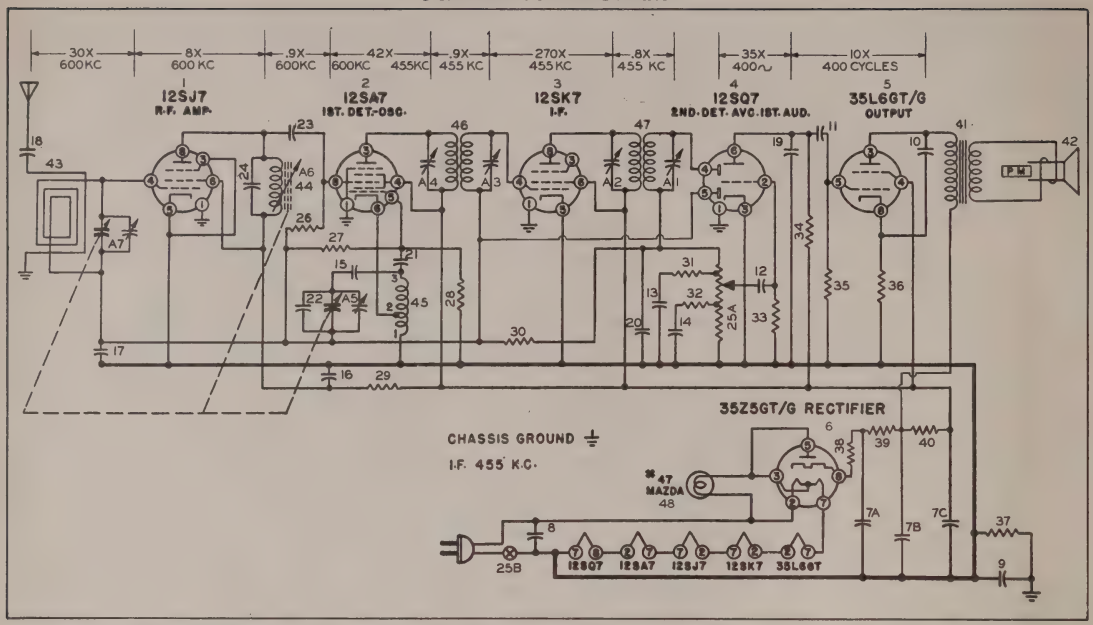
MISCELLANEOUS

ITEM No.	PART NAME	ADMIRAL PART No.	NOTES
A5 A7	Trimmer		Part of Main Tuning Capacitor(68A2)
A6	Stud	27A4	RF Slug Adjustment
	Gang Cap.	68A2	Main Tuning Capacitor
	Spring	19A4	RF Tuning Arm
	Knob	33A1-1	Ivory
		33A1-2	Walnut or Mahogany
	Iron Core Slug	71B1-2	RF Tuning

CHASSIS—BOTTOM VIEW

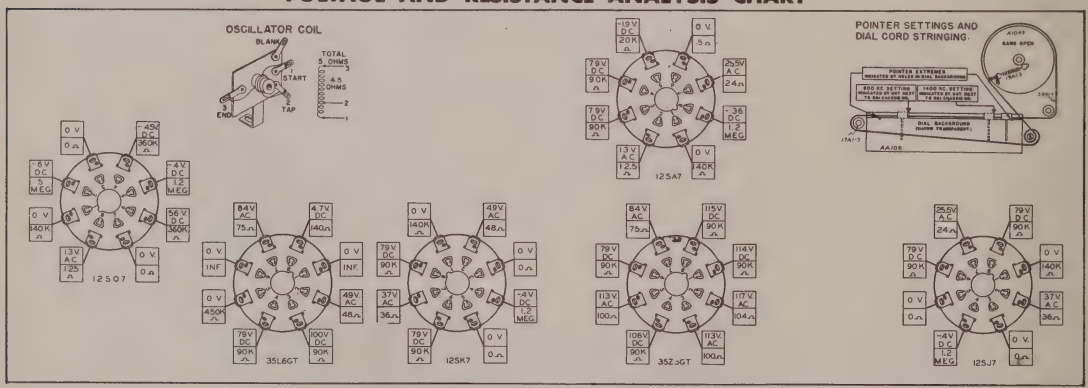


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of + 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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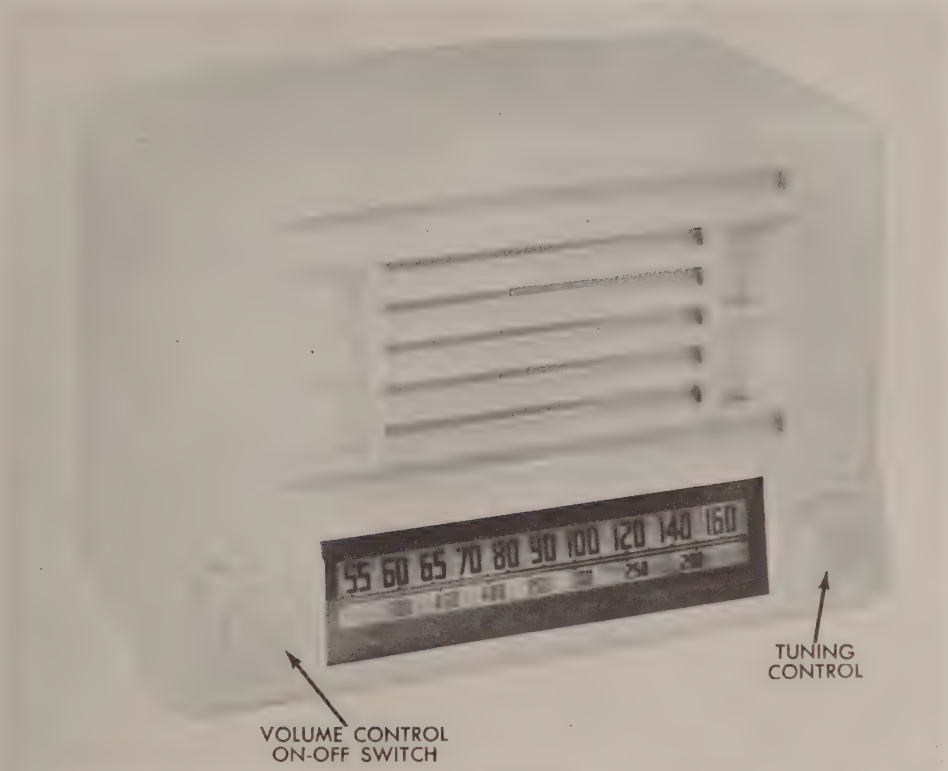
ADMIRAL
MODELS 6T02, 6T04



ADMIRAL
MODELS 6T02, 6T04

ADMIRAL MODEL 6T02

TRADE NAME	Admiral, Model 6T02, 6T04 (Chassis 5B1)
MANUFACTURER	Admiral Corp., 3800 Cortland St., Chicago 47, Ill.
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (FIVE)	Types 12SA7 1st Det.-Osc., 12SK7 IF Amp., 12SQ7 2nd Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier
POWER SUPPLY	117 Volts AC-DC Rating .240 Amp. @ 117 Volts AC.
TUNING RANGE--BROADCAST	540-1630KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD	High side to ant. stator of tuning cond. Low side to B-.	455KC	High freq. end of dial. Rotor full open.	Across voice coil	A1, A2 A3, A4.	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between signal generator ground lead and B-. Also decrease dummy ant. to .001 MFD to prevent excessive hum modulation.
"	"	1630KC	"	"	A5	" "
	Loop	1400KC	Tune in signal.	"	A6	Adjust for maximum output. Connect signal generator to loop of few turns of wire and couple loosely to receiver loop by spacing.(no direct connection).

Check dial pointer setting as indicated on dial diagram. Volume contral at maximum volume and lowest output setting of signal generator capable of producing adequate output meter indication. Use insulated alignment screwdriver for adjusting.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: ADMIRAL PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	1st Det.-Osc.	12SA7	12SA7	8R	
2	IF Amp.	12SK7	12SK7	8N	
3	DET.-AVC-AF	12SQ7	12SQ7	8Q	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: ADMIRAL PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6(A)	30	150	67A8	TN129	DSB 40/30/20-150	TA-330	PRS150-40-40	EZ42215	Filter - Red - 67A8
(B)	30	150							Filter - Yellow
(C)	20	150				UT-201	PRS150-20		Filter - Blue
7	.05	400	64B1-22	TP426	S-4-05	TC-15	484-.05	DT4S5	Line Filter
8	.2	900	64A2-1	TP419	S-6-2	TC-2	1084-.2	DT6P2	Line Isolating
9	.02	400	64B1-24	TP423	S-4-02	TC-12	484-.02	DT4S2	50L6 Plate Bypass
10	.01	400	64B1-25	TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
11	.01	400	64B1-25	TP421	S-4-01	TC-11	484-.01	DT4S1	" "
12	.02	400	64B1-24	TP423	S-4-02	TC-12	484-.02	DT4S2	Osc. Isolating Cond.
13	.1	200	64b1-30	TP428	S-4-1	TC-1	484-.1	DT4P1	AVC Filter
14	.005	600	64B1-12	TP408	S-6-005	TC-25	684-.005	DT6D5	Ant. Coupling
15	500	500	65B7-27	MC245	M0.5-35	1FM-35	1468-.0005	5W5T5	Audio Plate Bypass
16	250	500	65B7-22	MC240	M0.5-325	1FM-325	1468-.00025	5W5T25	RF Bypass Vol. Cont.
17	20	500	65B5-5	MC220	M0.5-425	MS-42	1438-.00025	5W5Q2	Fixed Trimmer
18	50	500	65B5-11	MC225	M0.5-45	1FM-45	1468-.00005	5W5Q5	Osc. Grid Cond.

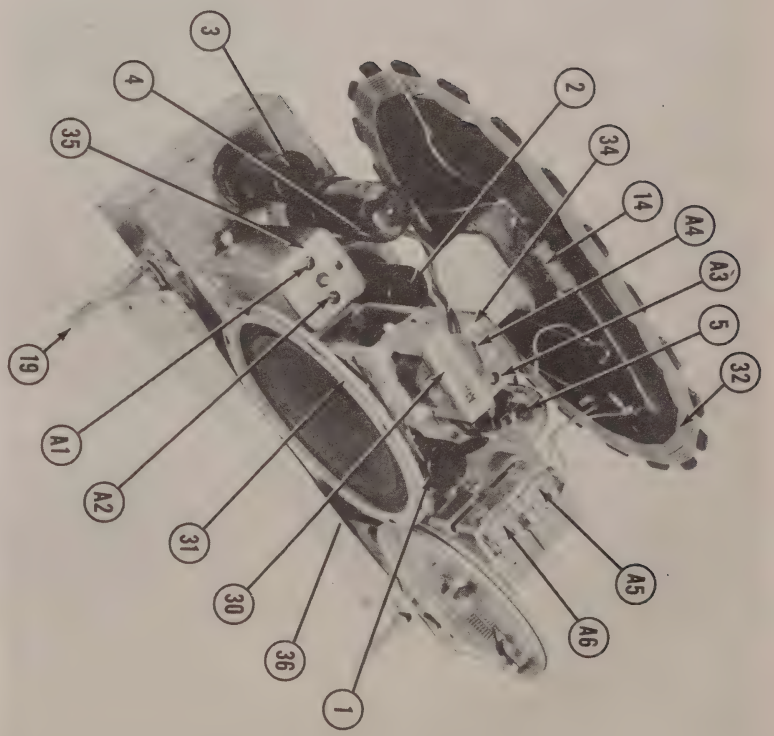
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: ADMIRAL PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
19(A)	1 Meg.	1	75B1-6	MK402	D13-137	AM-63-Z	Volume Control
(B)	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 15A per instr.
(C)	Switch		" "	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: ADMIRAL PART No.	IRC PART No.	IDENTIFICATION CODES
20	22Kω	½	60B8-223	BTS22K	Red-Red-Or. Osc. Grid
21	1 Meg.	½	60B8-105	BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
22	10 Meg.	½	60B8-106	BTS-10 Meg.	Br.-Blk.-Blue 1st AF Grid
23	220Kω	½	60B8-224	BTS-22K	Red-Red-Yl. 1st AF Plate Load
24	470Kω	½	60B8-474	BTS-470K	Yl.-Vi.-Yl. Output Grid
25	150ω	½	60B8-151	BW-½-150	Br.-Grn.-Br. Output Cathode
26	150Kω	½	60B8-154	BTS-150K	Br.-Grn.-Yl. Line Isolating
27	33ω	1		BW-1-33	Or.-Or.-Blk. Filter
28	150ω	1		BW-1-150	Br.-Grn.-Br. Filter
29	1000ω	1		BW-1-1000	Br.-Blk.-Red Filter

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING IMPEDANCE PRI.	RATING IMPEDANCE SEC.	RATING DC RES. PRI.	RATING DC RES. SEC.	REPLACEMENT DATA ADMIRAL PART No.	REPLACEMENT DATA STANCOR PART No.	REPLACEMENT DATA THORDAR'N PART No.	REPLACEMENT DATA UTAH PART No.	INSTALLATION NOTES
30	2350Ω	3.15Ω	150Ω	.52Ω	78B4-1	A3876*	T-13S42*	8775*	*Bend mounting tabs down and mount by original bracket. *Mounting bracket must be fabricated.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA ADMIRAL PART No.	REPLACEMENT DATA JENSEN PART No.	REPLACEMENT DATA UTAH PART No.	INSTALLATION NOTES
31	FIELD PM	VC IMP. 3.15Ω	78B4-1	ST-443*	5HZ*	*Bracket must be made so the replacement speaker is in the same position as the original.
	CONE DIA. 4-9/16"	VC DIA. 1/2"	NOT REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

R F COILS

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA ADMIRAL PART No.	REPLACEMENT DATA MEISSNER PART No.	INSTALLATION NOTES
32	Loop Ant.	0	1Ω	69B4		
33	Osc.	.5Ω	4.5Ω	69A5		
34	Input IF	18Ω	18Ω	72B3	16-5712	
35	Output IF	21Ω	22Ω	72B4	16-5714	

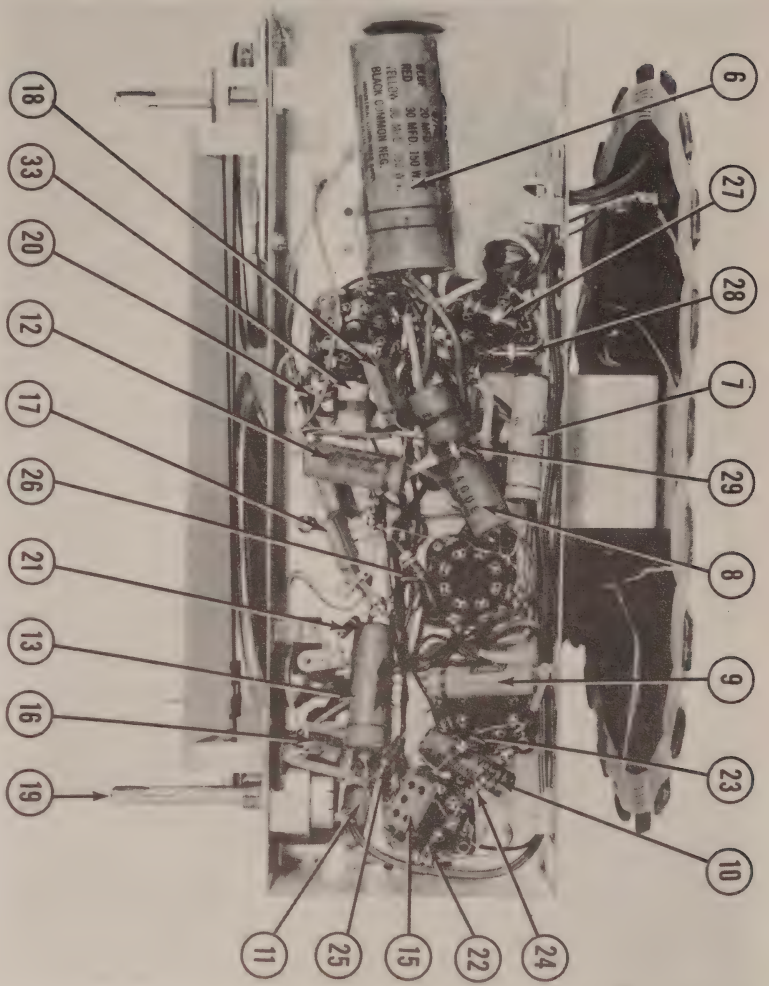
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA ADMIRAL PART No.		INSTALLATION NOTES
36	Min. Bayonet	6-8	0.15	Brown	61A1-6		Mazda #47

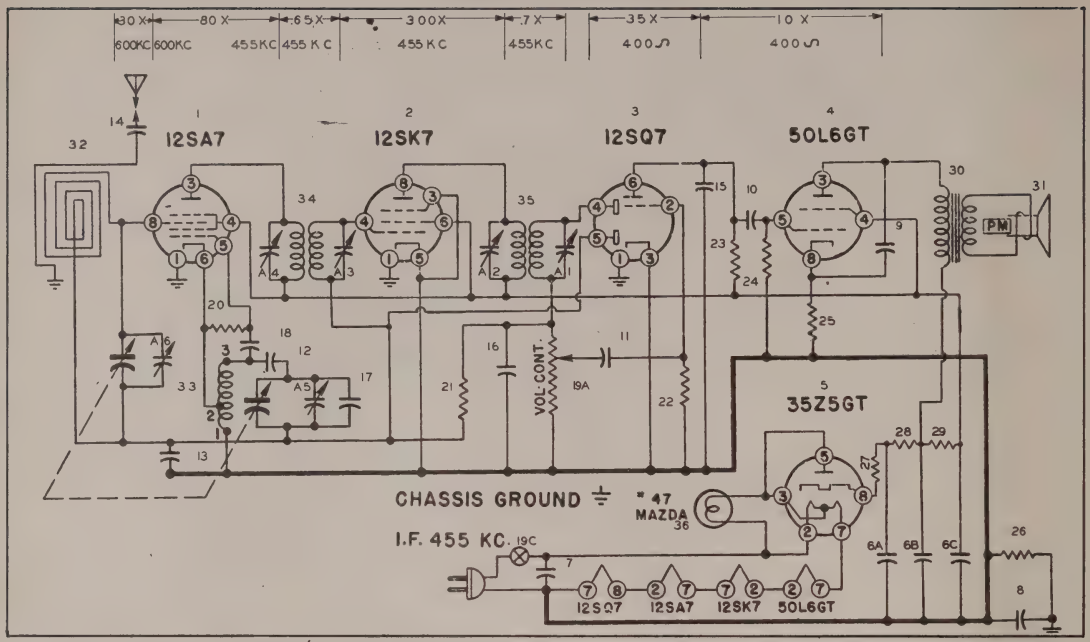
MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
A5	Trimmer		Part of main tuning cap gang
A6	" "		" " " "
	Main Tun. Cap	P4975	2 gang main tun. capacitor
	" "	68A2	" " " "
	Dial Pointer	25A1-2	6T02
	" "	AA106	6T04 (Pointer, strip and slide)
	Dial Scale	21B5-1	6T02 (Glass)
	" "	21B4-1	6T04 (Plastic)
	Knob	33A1-1	Ivory
	"	33A1-2	Walnut-Mahogany

CHASSIS—BOTTOM VIEW

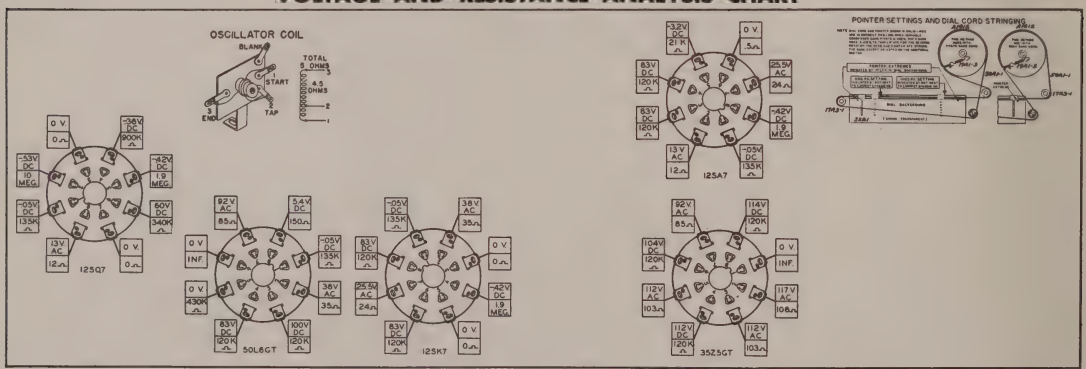


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt Battery bias substituted for measurement.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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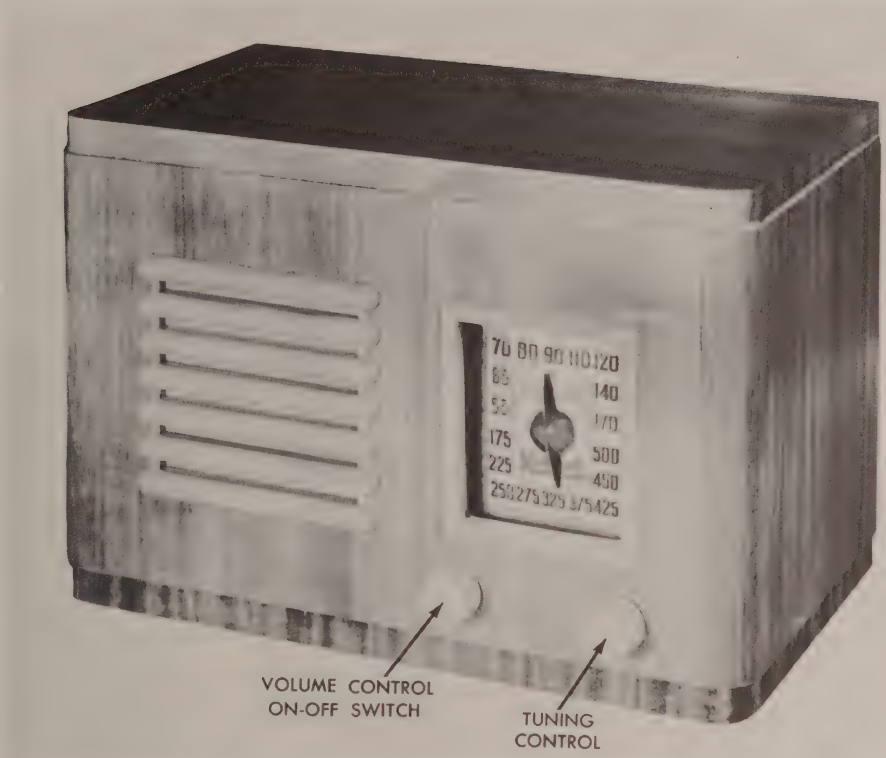
GENERAL TELEVISION
MODELS 1A5, 2A5, 3A5,
5A5, 15A5, 19A5



GENERAL TELEVISION MODEL 19A5

TRADE NAME	General Television, Models 1A5, 2A5, 3A5, 5A5, 15A5, 19A5 (Chassis 1-1)
MANUFACTURER	General Radio & Television Corp. - Chicago, Illinois
TYPE SET	AC - DC Superheterodyne Self Contained Loop Antenna
TUBES(FIVE)	Types 12SA7GT Converter, 12SK7GT IF Amp., 12SQ7GT Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier
POWER SUPPLY	117 Volts AC-DC Rating .245 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	540-1700KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD	High side to stator of ant. section of gang. Low side to chassis.	456KC	Quiet point at high end of band.	Across voice coil	A1, A2, A3, A4.	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between generator ground lead and receiver chassis. Also decrease dummy ant. to .001 MFD to prevent excessive hum modulation.
	Loop	1600KC	1600KC	"	A5	Adjust for maximum output. Connect signal generator to loop of few turns of wire and radiate signal into receiver loop by spacing the loops (no direct connection).
	"	1400KC	Tune in 1400 KC signal.	"	A6	" "

Volume control at maximum volume and output from signal generator no higher than necessary to give readable output. Use insulated alignment screwdriver for adjusting.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: GENERAL TELEVISION PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter		12SA7GT/G	8AD	
2	IF Amp.		12SK7GT	8N	
3	DET.-AVC-AF		12SQ7GT	8Q	
4	Power Output		50L6GT	7AC	
5	Rectifier		35Z5GT/G	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: GENERAL TELEVISION PART No.	REPLACEMENT DATA: MALLORY PART No.	REPLACEMENT DATA: SOLAR PART No.	REPLACEMENT DATA: SPRAGUE PART No.	REPLACEMENT DATA: AEROVOX PART No.	REPLACEMENT DATA: CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6(A)	40	150	3-3	2N514	DHN-2x50-150	TA-240	PRS150-40-40	BRD4215	Filter
(B)	20	150	(10B143)						
7	.1	400		TP428	S-4-1	TC-1	484-.1	DT4P1	Line Bypass
8	.1	400		TP428	S-4-1	TC-1	484-.1	DT4P1	Line Isolating*
9	.02	400		TP423	S-4-02	TC-12	484-.02	DT4S2	50L6 Plate Bypass
10	.01	400		TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
11	.01	400		TP421	S-4-01	TC-11	484-.01	DT4S1	"
12	.05	200		TP426	S-4-05	TC-15	484-.02	DT4S5	AVC Filter
13	250	500		MC240	M0.5-325	1FM-325	1468-.00025	5W5T25	Audio Plate Bypass
14	100	500		MC235	M0.5-31	1FM-31	1468-.0001	5W5T1	RF Bypass Vol. Cont.
15	100	500		MC235	M0.5-31	1FM-31	1468-.0001	5W5T1	Osc. Grid Cond.

* In Underwriters Approved Models Only.

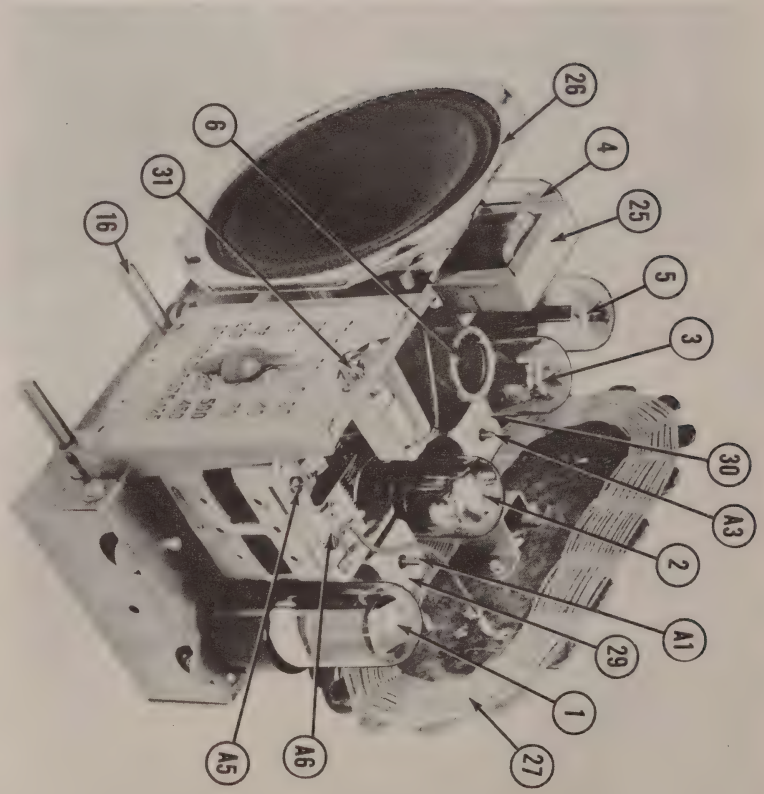
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: GENERAL TELEVISION PART No.	REPLACEMENT DATA: MALLORY PART No.	REPLACEMENT DATA: IRC PART No.	REPLACEMENT DATA: CLAROSTAT PART No.	INSTALLATION NOTES
16(A)	500KΩ	1	20-1	MR48	D13-133	M-60-Z	Volume control.
(B)	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 16A per instructions.
(C)	Switch		" "	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: GENERAL TELEVISION PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
17	22KΩ	½		BTS-22K	Red-Red-Or. Osc. Grid
18	2.2 Meg.	½		BTS-2.2 Meg.	Red-Red-Grn. Diode Load
19	6 Meg.	½		BTS-5.6 Meg.	Blue-Blk.-Grn. 1st AF Grid
20	560KΩ	½		BTS-560K	Grn.-Blue-Yl. 1st AF Plate Load
21	560KΩ	½		BTS-560K	Grn.-Blue-Yl. Output Grid
22	150Ω	½		BW-½-150	Br.-Grn.-Br. Output Cathode
23	2000Ω	1		BW-1-2200	Red-Blk.-Red Filter
24	10Ω	½		BW-½-10	Br.-Blk.-Blk. Pilot Light Ballast

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING IMPEDANCE PRI.	RATING IMPEDANCE SEC.	RATING DC RES. PRI.	RATING DC RES. SEC.	REPLACEMENT DATA GENERAL TELEVISION PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	INSTALLATION NOTES
25	2500Ω	3.16Ω	192Ω	.58Ω		A3876‡	T-14882#	8775#	‡New mounting bracket must be fabricated. #Bend mounting tabs down and mount by original bracket.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA GENERAL TELEVISION PART No.	JENSEN PART No.	UTAH PART No.	INSTALLATION NOTES
26	FIELD PM	VC IMP. 3.16Ω	8-1	ST-103*	5PZ*	*Drill and tap magnet frame of replacement speaker or devise horse-shoe shaped bracket to mount in same position as the original speaker.
	CONE DIA. 4½"	VC DIA. 2"	NOT REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

R F COILS

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA GENERAL TELEVISION PART No.	MEISSNER PART No.	INSTALLATION NOTES
27	Loop Ant.	1Ω		32-5		
28	Osc.	1Ω	5.2Ω	14-1		
29	Input IF	10Ω	10Ω	15-3		
30	Output IF	10Ω	10Ω	15-3		

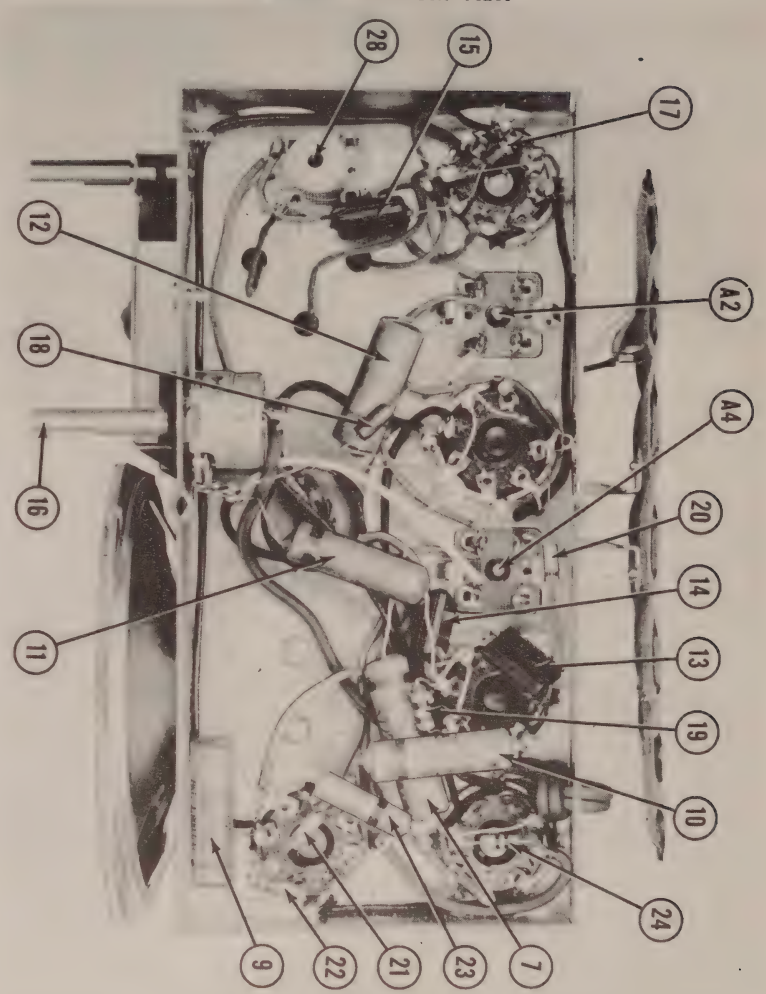
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA GENERAL TELEVISION PART No.		INSTALLATION NOTES
31	Bayonet	6-8	.15	brown			#47

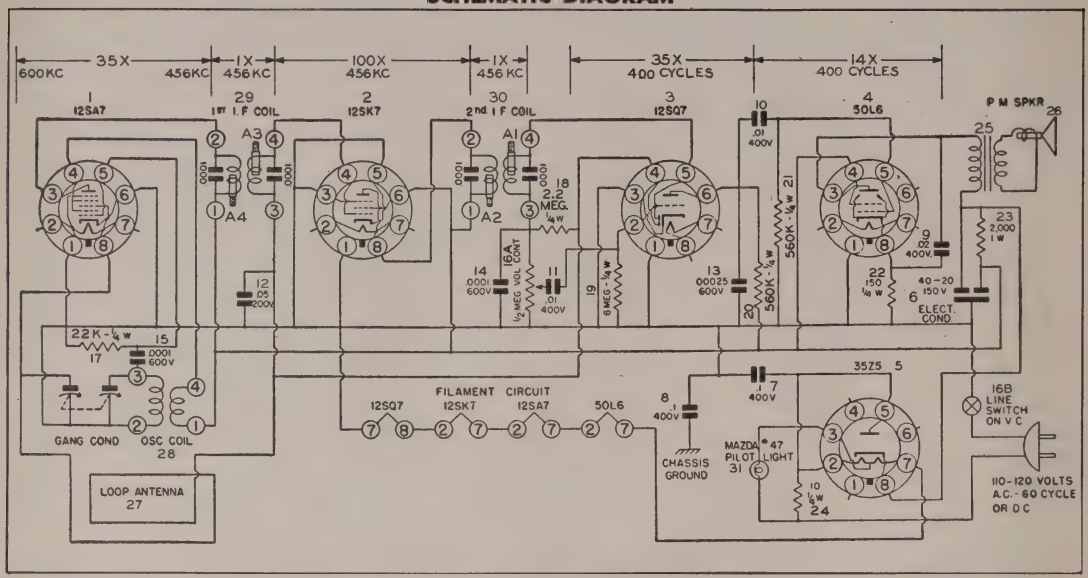
MISCELLANEOUS

ITEM No.	PART NAME	GENERAL TELEVISION PART No.	NOTES
A5	Trimmer		Part of main tuning cap.
A6	Tuning Cap.	6-1	2 gang main tuning capacitor
	Dial Pointer	720-3D	
	Dial Plate	1-2	

CHASSIS—BOTTOM VIEW

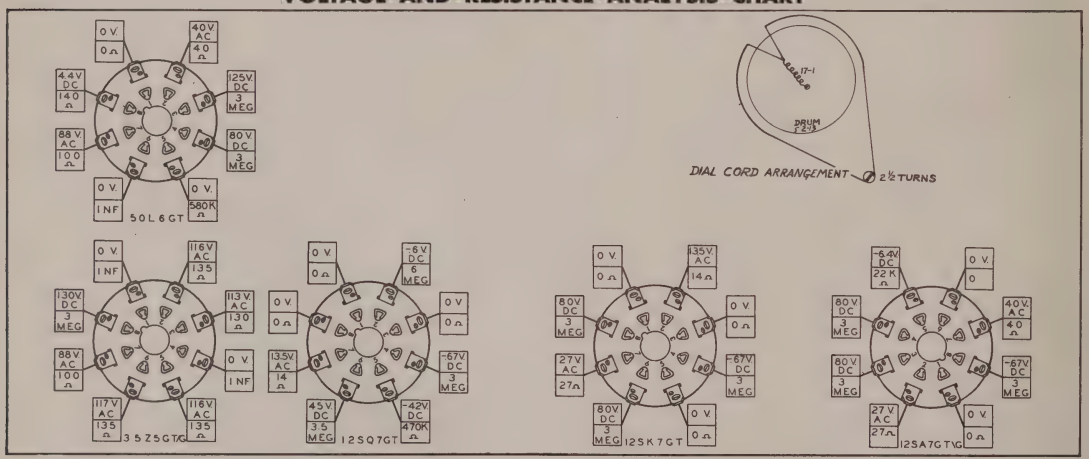


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of + 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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0526A

0526B

0526C

0526E

BENDIX MODEL 0526A

TRADE NAME	Bendix, Models 0526A, 0526B, 0526C, 0526D, 0526E
MANUFACTURER	Bendix Radio Division, Bendix Aviation Corp. - Baltimore 4, Maryland
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (FIVE)	Types 12SA7 Converter, 12SK7 IF Amp., 12SQ7 Demod. 1st AF, 50L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	105-125 Volts AC-DC Rating .235 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	535-1725KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.05MFD.	High side to external ant. post Low to chassis.	455KC	High end of band.	Across voice coil	A1, A2, A3, A4.	Adjust for maximum output. See Note A.
	Loop	1550KC	1550KC Mark.	"	A5	Adjust for maximum output. See Note B.
	"	"	"	"	A6	" "
	"	580KC	580KC Mark.	"		Check for sensitivity and calibration.

Note A - Use isolation transformer if available. If not, isolating capacitor must be connected between signal generator ground lead and receiver chassis. Also decrease dummy ant. to .001 MFD to prevent excessive hum modulation.

Note B - Connect signal generator output to loop of few turns of wire and radiate signal to receiver loop by spacing (no direct connection). It may be necessary to "rock" gang slightly while adjusting A6.

Check dial calibration with following information. With tuning capacitor in full mesh dial pointer should be 2" from left end of dial back plate. At 580KC dial pointer is 2½" from left end of dial back plate. At 1550KC dial pointer is 5-15/32" from left end of dial back plate. Strip of paper may be clipped on dial back plate for positioning marks.

Volume control at maximum volume and output from signal generator no higher than necessary to give output reading. Use insulated alignment screwdriver. On models 0526A, 0526B and 0526F metal plate should be in place on bottom of chassis.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: BENDIX PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	12SA7	12SA7	8R	
2	IF Amp.	12SK7	12SK7	8N	
3	Demod.-1AF	12SQ7	12SQ7	8Q	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: BENDIX PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6(A)	40	150	CE2A00	FP214	DY-2x50-150	EL-25	AF88D	UP6BJ34	■ Filter
(B)	40	150							▲
7	.05	600	CP6T40	TP415	S-6-05	TC-15	684-.05	DT6S5	Line Bypass
8	.1	400	CP4T51	TP423	S-4-1	TC-1	484-.1	DT4P1	Line Isolating
9	.01	400	CP4T31	TP421	S-4-01	TC-11	484-.01	DT4S1	50L6 Plate Bypass
10	.004	600	CP6T16	TP407	S-6-004	TC-24	684-.004	DT6D4	Ant. Coupling
11	.004	600	CP6T16	TP407	S-6-004	TC-24	684-.004	DT6D4	Audio Coupling
12	.05	400	CP4T40	TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
13	6000	300	CP4T20	MC467	MW.5-26	1FM-26	1467-.006	1D5D6	Audio Coupling
14	330	500	CM5A34	MC243	MO.5-34	1FM-34	1468-.0004	5W5T4	Audio Plate Bypass
15	47	500	CM5A14	MC225	MO.5-45	1FM-45	1468-.00005	5W5Q5	Osc. Grid Cond.
16	1000	500	CM5A46	MC255	MO.3-21	1FM-21	1468-.001	1W5D1	Audio Plate Bypass

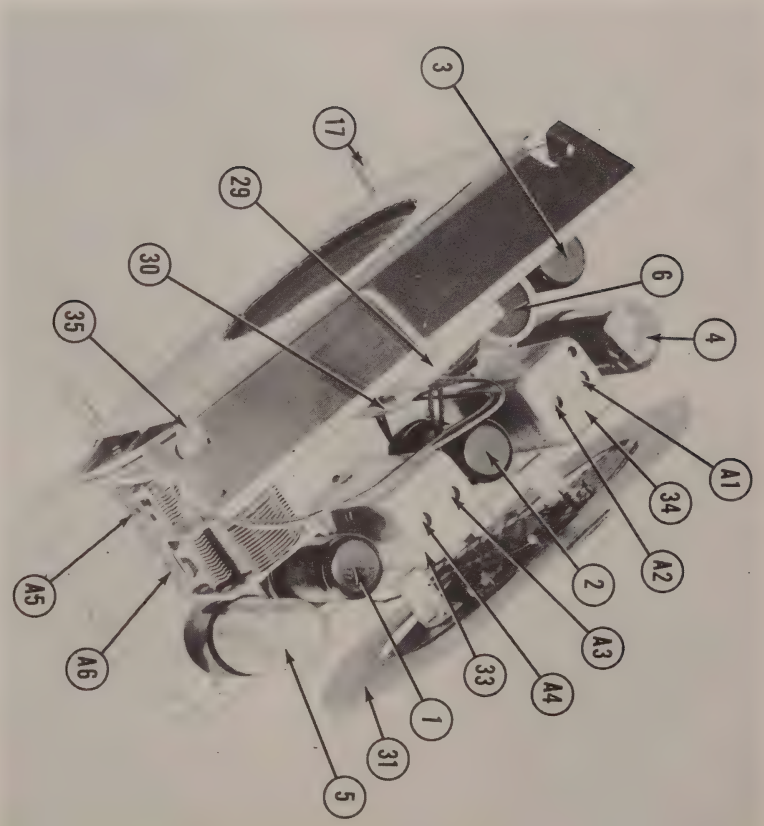
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: BENDIX PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
17(A)	500KΩ	1	RV0S00	*MR48	*D13-133	*M-60-Z	**See Inst. Note 1
(B)			Not Req.	Not Req.	A	Not Req.	Attach to 17A per instructions
(C)	Switch		" "	M26	41	SW-A	" " " " "
	Inst.	Note 1	- Install a 50KΩ resistor in series with the right hand terminal of the control and the lead connecting to the same terminal of the original control. (Control viewed from shaft side, terminals down.)				

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: BENDIX PART No.	IRC PART No.	IDENTIFICATION CODES
18	15 Meg.	½	RC1H76	BTS-15 Meg.	Br.-Grn.-Blue AVC Network
19	22KΩ	½	RC1H40	BTS-22K	Red-Red-Or. Osc. Grid
20	3.3 Meg.	½	RC1H68	BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
21	220KΩ	½	RC1H54	BTS-220K	Red-Red-Yl. Plate Load
22	4.7 Meg.	½	RC1H70	BTS-4.7 Meg.	Yl.-Vi.-Grn. 1st AF Grid
23	470KΩ	½	RC1H58	BTS-470K	Yl.-Vi.-Yl. Output Grid
24	150Ω	1	RW1B14	BW-1-150	Br.-Grn.-Br. Output Cathode
25	2200Ω	2	RC4G28	BT-2-2200	Red-Red-Red Filter
26	100Ω	1	RC3H12	BW-1-100	Br.-Blk.-Br. Pilot Light Ballast
27	33Ω	1	RW1A06	BW-1-33	Or.-Or.-Blk. Rectifier Ballast
28	220K	½	RC1H54	BTS-220K	Red-Red-Yl. Line Isolating

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING IMPEDANCE PRI.	RATING IMPEDANCE SEC.	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA BENDIX PART No.	REPLACEMENT DATA STANCOR PART No.	REPLACEMENT DATA THORDAR'N PART No.	REPLACEMENT DATA UTAH PART No.	INSTALLATION NOTES
29	1540Ω	3.2Ω	142Ω	.5Ω	TA0000	A3865†	T-14882#	8775#	#Bend mounting tabs down and mount by original bracket. †Mounting bracket must be improvised.

SPEAKER

ITEM No.	RATINGS FIELD RES.	RATINGS VC IMP.	REPLACEMENT DATA BENDIX PART No.	REPLACEMENT DATA JENSEN PART No.	REPLACEMENT DATA UTAH PART No.	INSTALLATION NOTES
30	PM	3.2Ω	SP4R00	ST-113*	4PY*	Reglue baffle to replacement speaker. *Mounting bracket must be improvised.
	CONE DIA.	VC DIA.				
	4"	3"	CS4R00	None	None	Use with SP4R00 (Code 252)
	"	"	CS4R01	"	"	" " " (Code 328)
	"	"	CS4R02	"	"	" " " (Code 277)
	"	"	CS4R03	"	"	" " " (Code 258)
	"	"	CS4R04	"	"	" " " (Code 191)

R F COILS

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA BENDIX PART No.	REPLACEMENT DATA MEISSNER PART No.	INSTALLATION NOTES
31	Loop Ant.	0	.5Ω	AL0C00		
32	Osc.	.5	4.8Ω	LO2B00		
33	Input IF	24Ω	24Ω	T10C00	16-6658	
34	Output IF	26Ω	25Ω	T10D00		

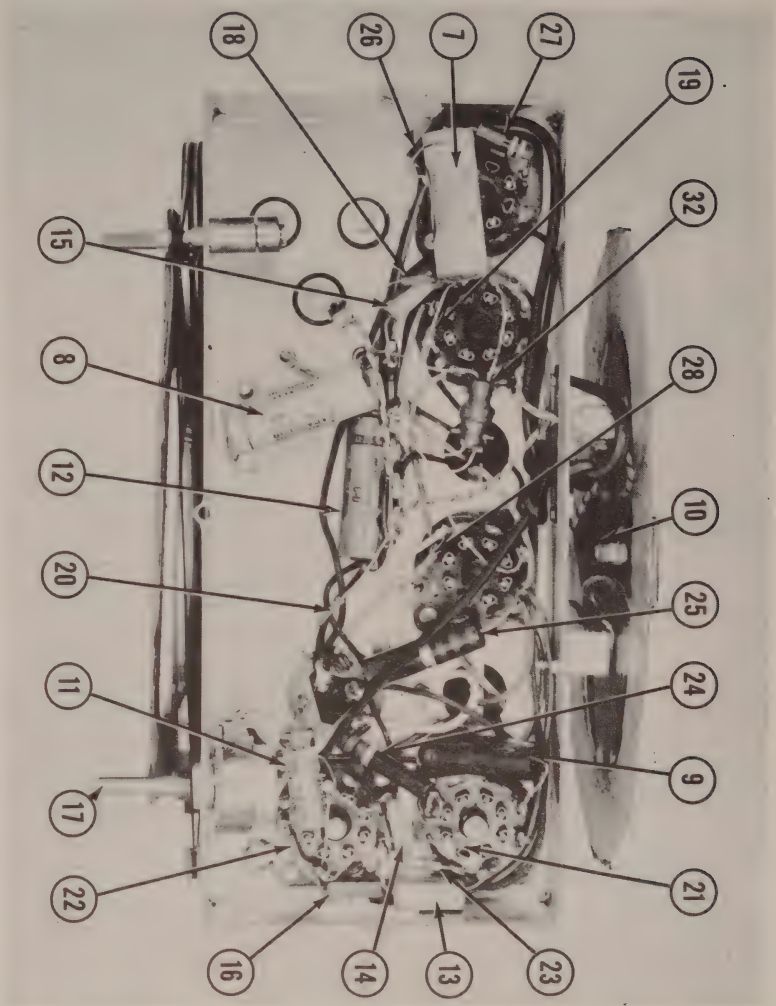
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA BENDIX PART No.		INSTALLATION NOTES
35	Min. Bayonet	6-8	0.15	Brown			#47

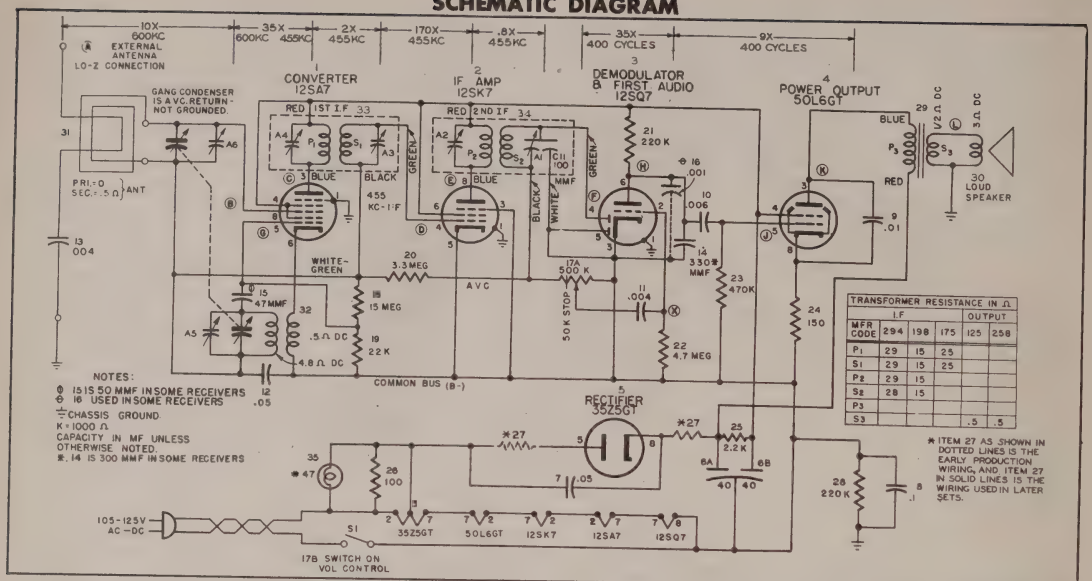
MISCELLANEOUS

ITEM No.	PART NAME	BENDIX PART No.	NOTES
A5	Trimmer		Part of CV0B01
A6	"		" " "
	Tuning Cap.	CV0B01	2 gang variable tuning capacitor
	Knob	KC0B01	0526A
	"	KC0B03	0526B
	"	KC0C00	0526C
	"	KC0G01	0526D
	"	KC0B02	0526E
	Dial Scale	DS0A03	0526A, 0526B (Plastic)
	" "	DS0A00	0526C (Glass)
	" "	DS0A05	0526D "
	" "	DS0A07	0526E

CHASSIS—BOTTOM VIEW



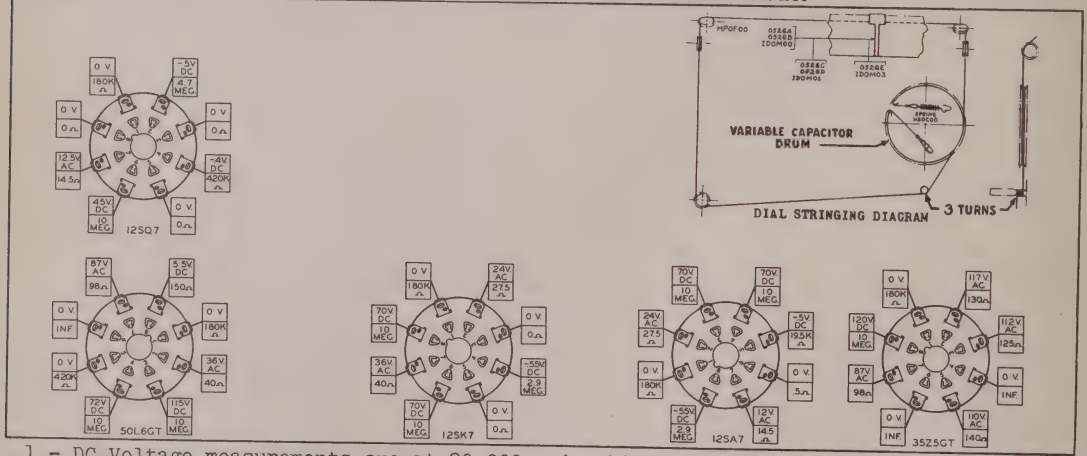
SCHEMATIC DIAGRAM



TRANSFORMER RESISTANCE IN Ω					
	I.F			OUTPUT	
MFR CODE	294	198	175	125	258
P1	29	15	25		
S1	29	15	25		
P2	29	15			
S2	28	15			
P3					
S3				.5	.5

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt Battery bias substituted for measurement.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of + 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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FADA
MODEL 652 SERIES

FADA MODEL 652

FADA
MODEL 652 SERIES

TRADE NAME	Fada, Model 652 Series
MANUFACTURER	Fada Radio & Electric Company, Inc. 30-20 Thomson Avenue-Long Island City, New York
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (SIX)	Types 14A7/12B7 RF Amplifier, 14Q7 Mixer, 14A7/12B7 IF Amplifier, 14B6 Det.-AVC-AF, 35A5 Power Output, 35Y4 Rectifier.
POWER SUPPLY	117 Volts AC-DC Rating .240 Amp. @ 117V. AC
TUNING RANGE—BROADCAST	528-1680KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.001 MMFD.	High side to signal grid of 14Q7. Low side to chassis.	456KC	Quiet point at high end of band.	Across voice coil	A1, A2, A3, A4.	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between signal generator ground lead and receiver chassis.
.001 MMFD.	High side to signal grid of 14A7. Low side to chassis.	456KC	Max. Cap.(set to mark at extreme left)	"	A5	Adjust for minimum output.
	Loop	1400KC	1400KC mark	"	A6	Adjust for maximum output. Connect signal generator to loop of few turns of wire and couple loosely to receiver loop by spacing.
	"	"	"	"	A7	Adjust for maximum output.

Dial pointer should be over mark on extreme left with rotor in full mesh. Volume control at maximum volume and output from signal generator as low as possible for all adjustments. Use insulated alignment screwdriver for adjusting.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: FADA PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	14A7/12B7	14A7/12B7	8V	
2	Mixer	14Q7	14Q7	8AL	
3	IF Amp.	14A7/12B7	14A7/12B7	8V	
4	DET.-AVC-AF	14B6	14B6	8W	
5	Power Output	35A5	35A5	6AA	
6	Rectifier	35Y4	35Y4	5AL	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: FADA PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7(A)	40	150	22.3	TN129	M-40-150	TA-430		E242215	Filter - Blue
(B)	30	150			M-2x20-150				" - Red
(C)	20	150				UT-201			" - Yellow
8	.05	400	12.12	TP426	S-4-05	TC-15	484-.05	DT4S5	Line Bypass
9	.03	400	12.9	TP424	S-6-03	TC-13	484-.03	DT4S3	35A5 Plate Bypass
10	.01	300	12.6	TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
11	.005	600	12.4	TP408	S-6-005	TC-25	684-.005	DT6D5	" "
12	.05	200	12.11	TP426	S-4-05	TC-15	484-.05	DT4S5	14A7 Cath. Bypass
13	.05	200	12.11	TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
14	250	500	17.8	MC240	M0.5-325	1FM-325	1468-.0002	5W5T25	14B6 Plate Bypass
15	100	500	17.5	MC235	M0.5-31	1FM-31	1468-.0001	5W5T1	Osc. Grid Cond.
16	100	500	17.5	MC235	M0.5-31	1FM-31	1468-.0001	5W5T1	RF Coupling

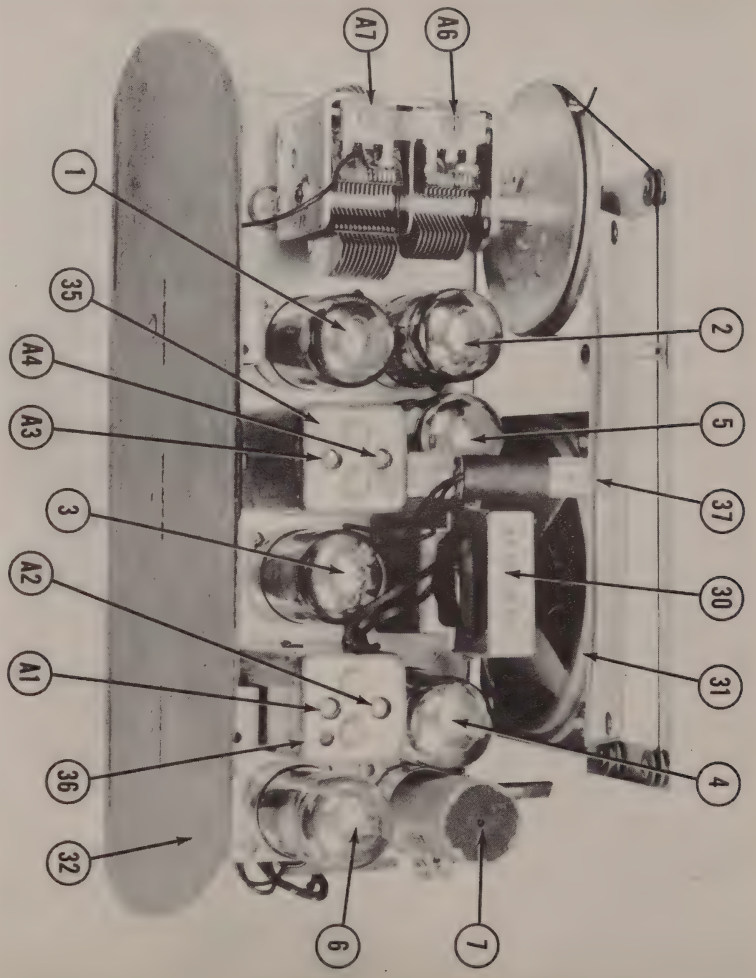
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: FADA PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
17(A)	500KΩ	1	52.3	MR48	DS13-133	M-60-Z	Used in later production.
(B)	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 17A per instructions.
(C)	Switch		"	M26	41	SW-A	" " " " "
17(A)	500KΩ	1	52.1	MR48	DS13-133	M-60-Z	Used in early production.
(B)	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 17A per instructions.
(C)	Switch		"	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: FADA PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
18	6800Ω	½	32.10	BTS-6800	Blue-Gray-Red RF Plate Load
19	100KΩ	½	32.17	BTS-100K	Br.-Blk.-Yl. Mixer
20	22KΩ	½	32.23	BTS-22K	Red-Red-Or. Osc. Grid
21	68Ω	½	32.1	BW-½-68	Blue-Gray-Blk. IF Cathode
22	1 Meg.	½	32.32	BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
23	3.9 Meg.	½	32.26	BTS-3.9 Meg.	Or.-Wh.-Grn. 1st AF Grid
24	220KΩ	½	32.18	BTS-220K	Red-Red-Yl. Plate Load
25	470KΩ	½	32.20	BTS-470K	Yl.-Vi.-Yl. Output Grid
26	130Ω	½	32.3	BW-½-130	Br.-Or.-Br. Output Cathode
27	200Ω	1	32.27	BW-1-200	Red-Blk.-Br. Filter
28	910Ω	1	32.28	BW-1-910	Wh.-Br.-Br. Filter
29	30Ω	1	117.1	BW-1-30	Or.-Blk.-Blk. Line Dropping

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING IMPEDANCE PRI.	RATING IMPEDANCE SEC.	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA FADA PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	INSTALLATION NOTES
30	2150Ω	3.4Ω	190Ω	.69Ω	42.1	A3876‡	T-14S82*	8775*	*Bend mounting tabs down and mount by original bracket. ‡Improvision of new mounting bracket is necessary.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA FADA PART No.	JENSEN PART No.	UTAH PART No.	INSTALLATION NOTES
31	FIELD PM	VC IMP. 3.4Ω	107.4	ST-113#	4PY#	#Improvision is necessary for mounting the escutcheon in the same position as originally.
	CONE DIA. 4"	VC DIA. 1" / 2	NOT REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

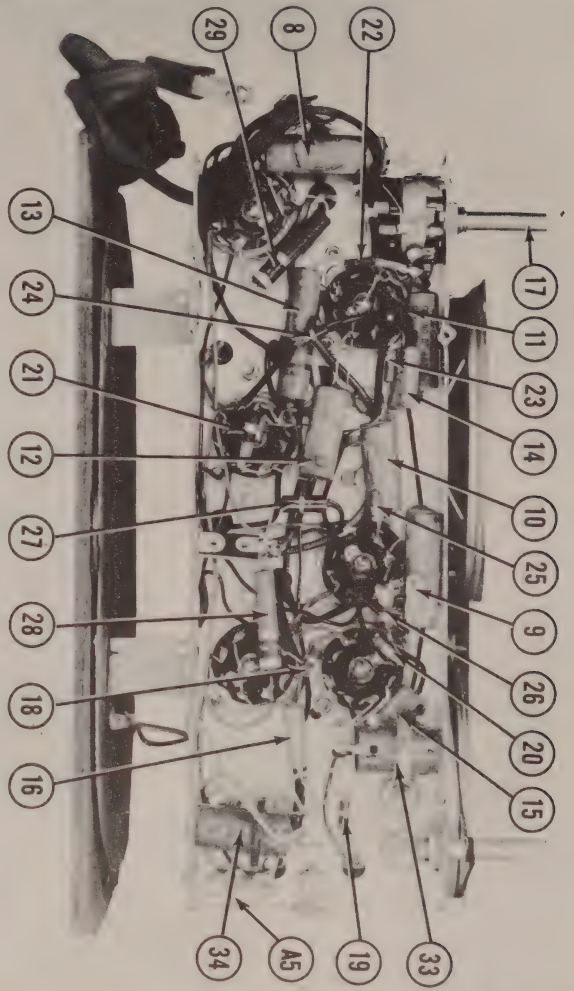
R F COILS

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA FADA PART No.	REPLACEMENT DATA MEISSNER PART No.	INSTALLATION NOTES
32	Loop Ant.	1Ω		37.7		
33	Wave Trap	49Ω		37.5		
34	Osc.	.5Ω	5Ω	37.6		
35	Input IF	20Ω	20Ω	37.3	16-6658	
36	Output IF	19Ω	19Ω	37.8		

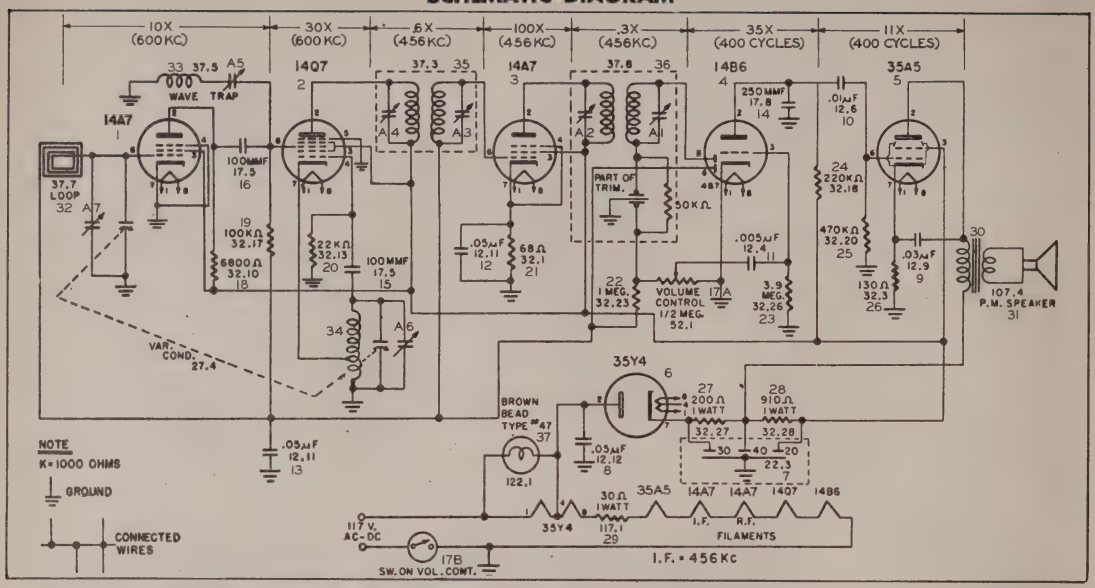
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA FADA PART No.		INSTALLATION NOTES
37	Bayonet	6-8	.15	Brown	122.1		Mazda 47

CHASSIS—BOTTOM VIEW



SCHEMATIC DIAGRAM



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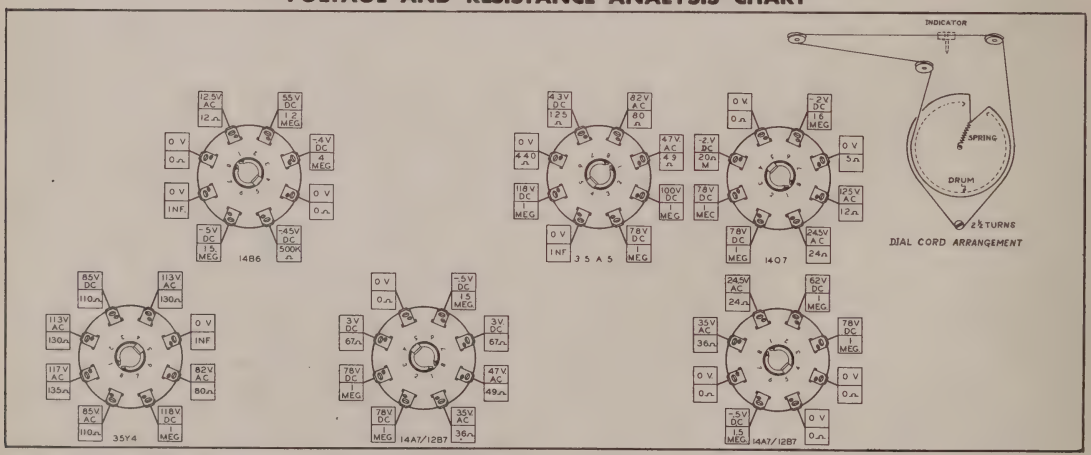
VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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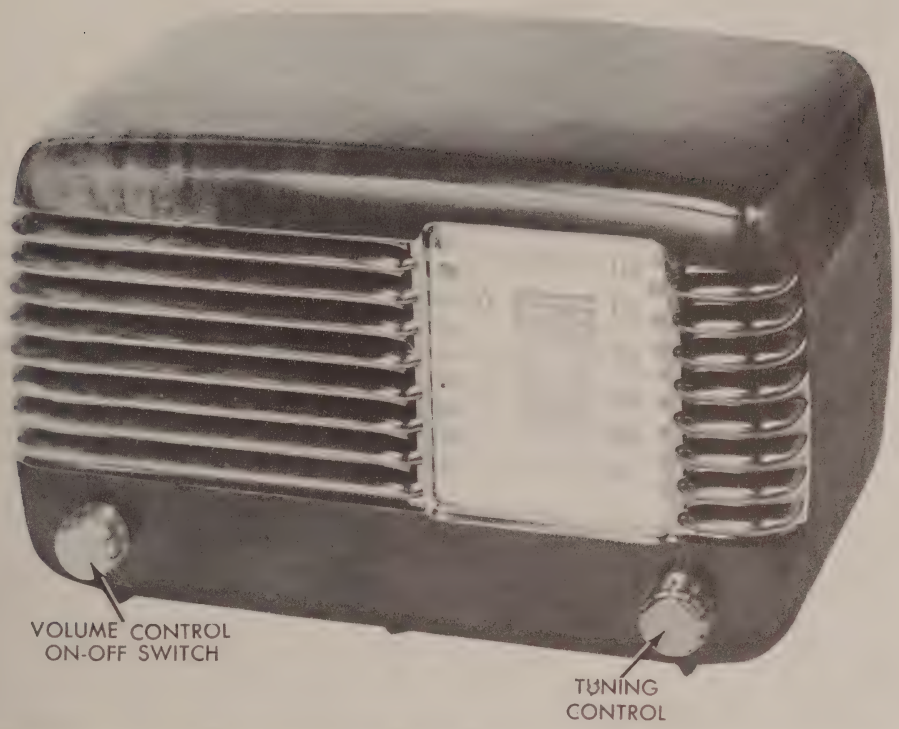
PHILCO
MODEL 46-200 SERIES



PHILCO
MODEL 46-200 SERIES

PHILCO MODEL 46-200

TRADE NAME	Philco, Models 46-200, 46-200I, 46-201, 46-202, 46-203
MANUFACTURER	Philco Radio and Television Corp. - Ontario and "C" Sts. - Philadelphia, Pa.
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (FIVE)	Types 7A8 Converter, 7B7 IF Amplifier, 7C6 2nd DET.-AVC-1st Audio, 50L6GT Power Output, 35Z5GT/G Rectifier
POWER SUPPLY	117 Volts AC-DC Rating-.250 Amp. @ 117V. AC
TUNING RANGE—BROADCAST	540 to 1620 KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
100MMFD	Stator plate terminal, ant. section of tuning cap. and B-.	455KC	540KC	To output-Left terminal(green lead)and center (ground) term. on rear of chassis.	A1, A2, A3, A4.	Turn A4 down tight. Turn tuning condenser plates to full mesh and check to see that dial pointer is set to index mark (small dot stamped on dial to the left of "55"). This is 540KC. Adjust for maximum output.
100MMFD	Aerial lead (blu (blue) and B-.	1600KC	1600KC	"	A5	Adjust for maximum output. Receiver loop in position.
100MMFD	"	1500KC	1500KC	"	A6	" "

Volume control at maximum and output from signal generator as low as possible for all adjustments. Use insulated alignment screwdriver for adjusting.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA PHILCO PART No.	REPLACEMENT DATA STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	7A8	7A8	8U	
2	IF Amp.	7B7	7B7	8V	
3	2ndDET.-AVC-1stAF	7C6	7C6	8W	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA PHILCO PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6(A)	20	150	30-2547	2N509	DHN-2x20-150	TA-220	PRS150-20-20	BRD2215	Filter - Red
(B)	20	150							Filter - Orange
7	.04	400	30-4119	TP425	S-6-04	TC-14	484-.04	DT4S4	Line Bypass
8	.01	600	61-0120	TP410	S-6-01	TC-11	684-.01	DT6S1	Audio Coupling
9	.02	600	30-4599	TP423	S-6-02	TC-12	684-.02	DT6S2	50L6 Plate Bypass
10	.01	600	61-0120	TP410	S-6-01	TC-11	684-.01	DT6S1	Audio Coupling
11	.05	200	30-4518	TP426	S-4-05	TC-15	484-.05	DT4S5	Screen Bypass
12	.1	200	30-4527	TP428	S-4-1	TC-1	484-.1	DT4P1	AVC Filter
13	.2	400	76-1418	TP429	S-4-2	TC-2	484-.2	DT4P2	Line Isolating Trap
14	250	500	6010245307	MC240	MO.5-325	1FM-325	1468-.00025	5W5T25	50L6 Grid Bypass
15	1500	500	30-4621	MC256	MW.5-215	1FM-215	1468-.0015	1W5D15	Ant. Coupling
16	50	500	60-00515307	MC225	MO.5-45	1FM-45	1468-.00005	5W5Q5	Osc. Grid Condenser

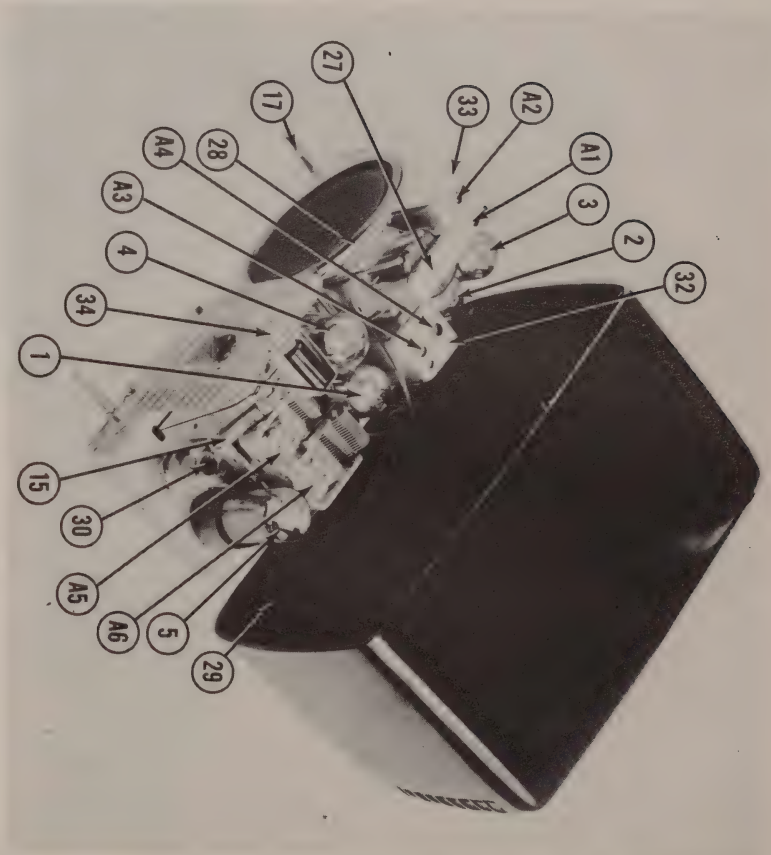
CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA PHILCO PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
17(A)	500K	1	33-5429	MR48	D13-133	M-60-Z	Volume control.
(B)	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 17A per instructions.
(C)	Switch		" "	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA PHILCO PART No.	REPLACEMENT DATA IRC PART No.	IDENTIFICATION CODES
18	120KΩ	½		BTS-120K	Br.-Red-Yl. Osc. Grid
19	27KΩ	½	66-3273340	BTS-27K	Red-Vi.-Or. Screen Dropping
20	3.3 Meg.	½	66-5333340	BTS-3.3 Meg	Or.-Or.-Grn. 1st AF Grid
21	2.2 Meg.	½	66-5223340	BTS-2.2 Meg	Red-Red-Grn. Diode Load
22	120KΩ	½		BTS-120K	Br.-Red-Yl. Line Isolating
23	470KΩ	½	66-4473340	BTS-470K	Yl.-Vi.-Yl. Plate Load
24	470KΩ	½	66-4473340	BTS-470K	Yl.-Vi.-Yl. Output Grid
25	130Ω	½	66-1123340	BW-½-130	Br.-Or.-Br. Output Cathode
26	80Ω	5	33-3425	AB-100	Gray-Blk.-Blk. Line Dropping

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING IMPEDANCE PRI.	RATING IMPEDANCE SEC.	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA PHILCO PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	INSTALLATION NOTES
27	2050Ω	3.74Ω	230Ω	.59Ω	Part of 36-1592	A3876*	T14S82†	8757†	†Bend mounting tabs down and mount by original bracket. *New mounting bracket must be be fabricated.

SPEAKER

ITEM No.	RATINGS FIELD	RATINGS VC IMP.	REPLACEMENT DATA PHILCO PART No.	REPLACEMENT DATA JENSEN PART No.	REPLACEMENT DATA UTAH PART No.	INSTALLATION NOTES
28	P500Ω	2.8Ω	36-1592	ST-537	Q445	Mounting bracket must be improvised so replacement speaker position is the same as that of the original.
	CONE DIA. 4"	VC DIA. ‡"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

R F COILS

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA PHILCO PART No.	REPLACEMENT DATA MEISSNER PART No.	INSTALLATION NOTES
29	Loop Ant.	3.6Ω		32-4056		Model 46-200 and 46-200-I
"	" "	"		32-4058		" 46-201
"	" "	"		32-4052		" 46-202
"	" "	"		32-4053		" 46-203
30	Ant.	35Ω	1Ω	32-3394		
31	Osc.	3.6Ω	7Ω	32-3880		
32	Input IF	23Ω	23Ω	32-3967	16-5712	
33	Output IF	22Ω	22Ω	32-3674	16-5714	

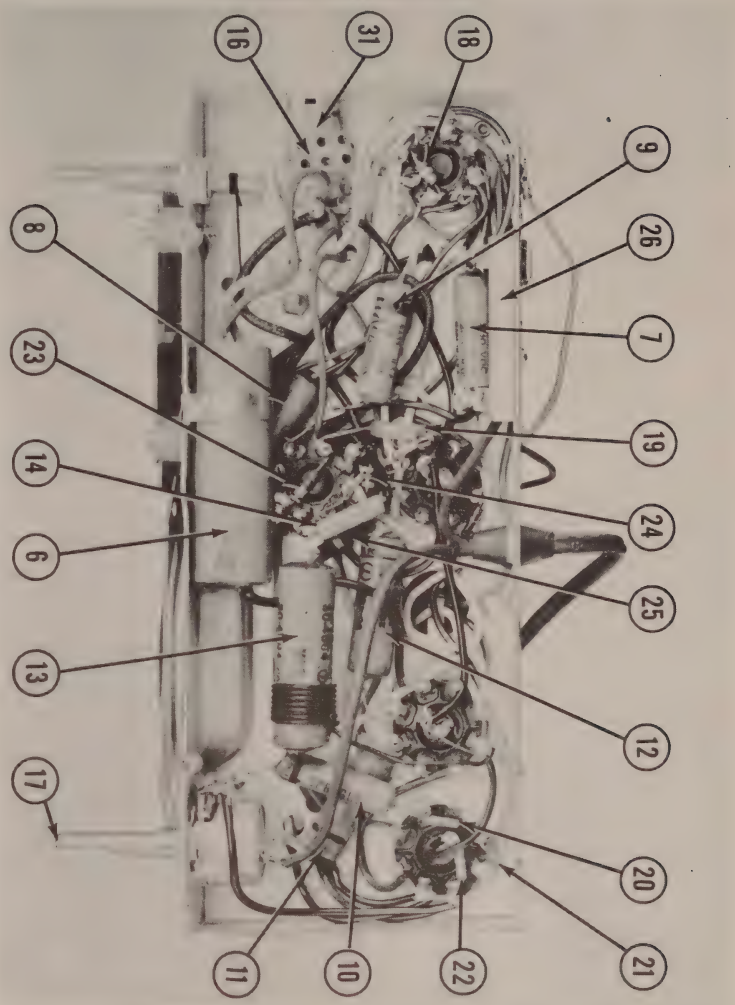
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA PHILCO PART No.		INSTALLATION NOTES
34	Min. Bayonet	6-8	0.15	Brown	34-2068		#47

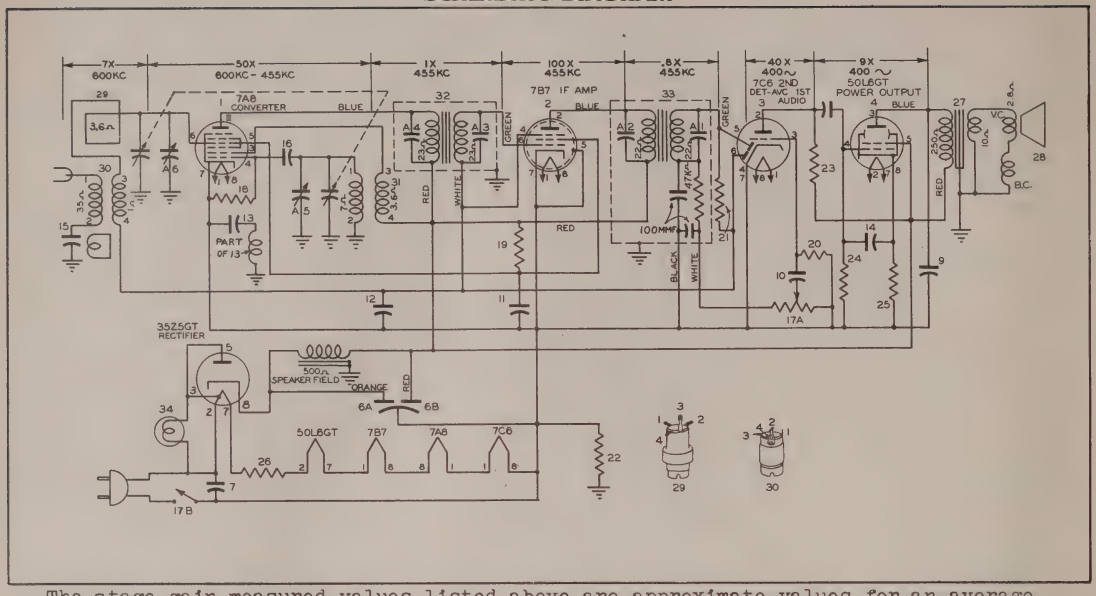
MISCELLANEOUS

ITEM No.	PART NAME	PHILCO PART No.	NOTES
A5	Trimmer		Part of 31-2658
A6	"		" " "
	Tuning Cap.	31-2658	2 gang variable tuning capacitor
	Dial Scale	27-5713	46-200
	" "	27-5840	46-200I
	" "	27-5817	46-201
	" "	27-5841	46-202
	" "	27-5839	46-203
	Pointer	27-4891	46-200,46-201
	"	54-4148	46-202
	"	54-4201	46-203
	Knob	27-4820	46-200
	"	54-4118	46-200I, 46-202
	"	54-4137	46-201
	"	54-4154	46-203

CHASSIS—BOTTOM VIEW

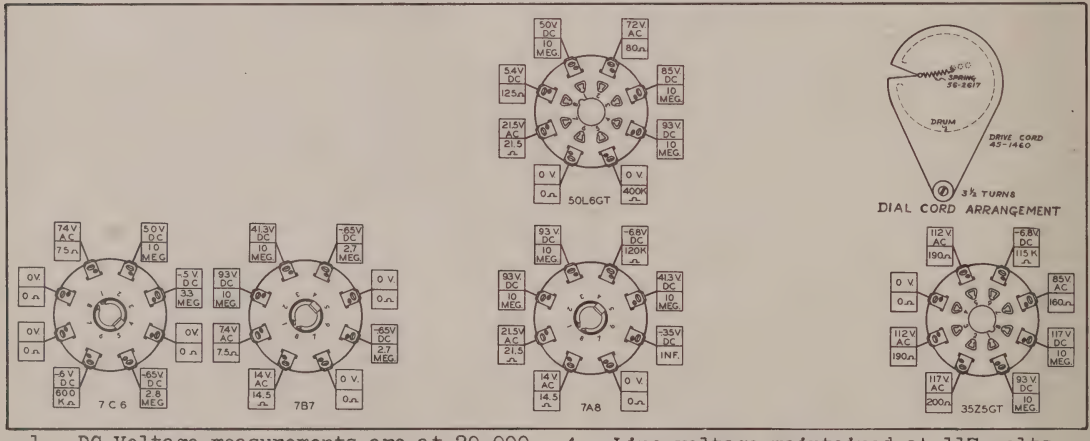


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt Battery bias substituted for measurement.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of + 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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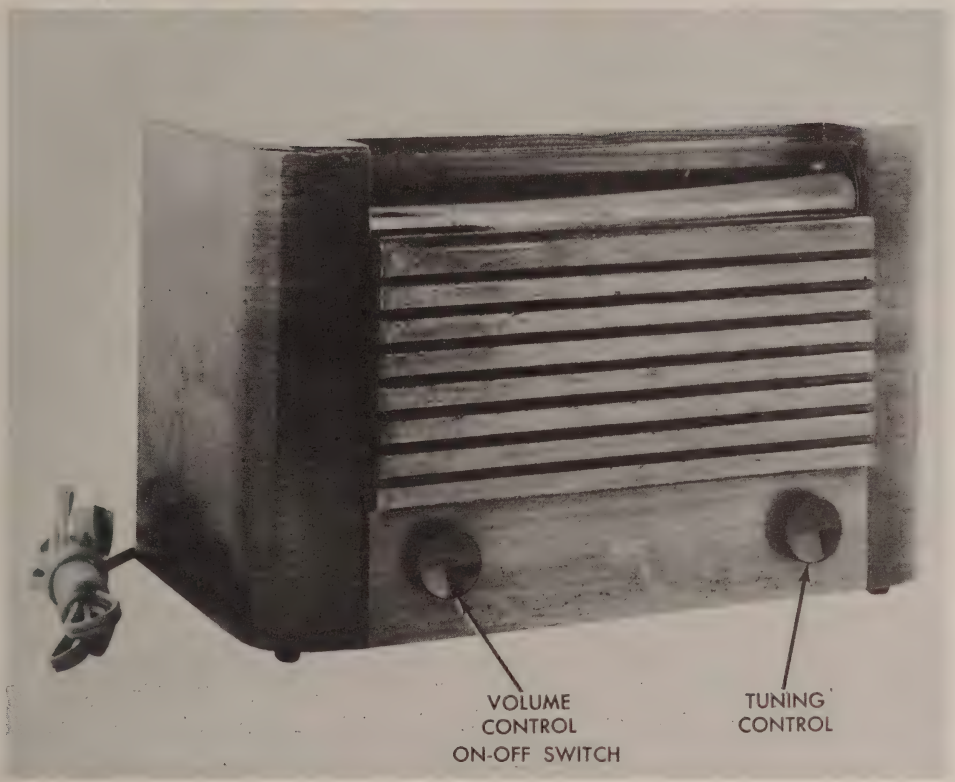
ECA
MODEL 101



ECA MODEL 101

ECA
MODEL 101

TRADE NAME	ECA, Model 101 (Chassis AA)
MANUFACTURER	Electronic Corp. of America - 45 West 18th St. - New York 11, N. Y.
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (FIVE)	Types 12SA7 Mixer, 12SK7 IF Amp., 12SQ7GT DET.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	117 Volts AC-DC Rating .20 Amp. @ 117 Volts AC.
TUNING RANGE—BROADCAST	540-1750KC **SHORT WAVE**

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.05MFD	High side to signal grid of 12SA7. Low side to B-.	455KC	High end of band.	Across voice coil.	A1,A2, A3,A4.	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between signal generator ground lead and receiver B-. Also decrease dummy ant. to .001 MFD to prevent excessive hum modulation.
	Loop	1600KC	1600KC	"	A5	Adjust for maximum output. Connect output of signal generator to loop of few turns of wire and radiate signal into receiver loop by spacing (no direct connection).
	"	1400KC	Tune in 1400 KC signal.	"	A6	" "

Volume control at maximum volume and output of signal generator adjusted no higher than is necessary to provide output reading. Use insulated alignment screwdriver for adjusting.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA ECA PART No.	REPLACEMENT DATA STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Mixer	12SA7	12SA7	8R	
2	IF Amp.	12SK7	12SK7	8N	
3	DET.-AVC-AF	12SQ7GT	12SQ7GT	8Q	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA ECA PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6(A)	50	150	S-CE122M	2N520	M-2x50-150	TA-530	PRSA150-50-30	BRD3515	Filter - Red
(b)	30	150							Filter - blue
7	.05	400	CP-105E	TP426	S-4-05	TC-15	484-.05	DT4S5	Line Filter
8	.02	400	CP-104E	TP423	S-4-02	TC-12	484-.02	DT4S2	Audio Coupling
9	.02	400	CP-116E	TP423	S-4-02	TC-12	484-.02	DT4S2	" "
10	.05	200	CP-105D	TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
11	.2	200	CP-133D	TP429	S-4-2	TC-2	484-.2	DT4P2	Line Isolating
12	250	400	CM-112E	MC240	M0.5-325	1FM-325	1468-.00025	5W5T25	50L6 Grid Bypass
13	250	400	CM-112E	MC240	M0.5-325	1FM-325	1468-.00025	5W5T25	RF Bypass Vol. Cont.
14	100	400	CM-103E	MC230	M0.5-31	1FM-31	1468-.0001	5W5T1	Osc. Grid Cond.

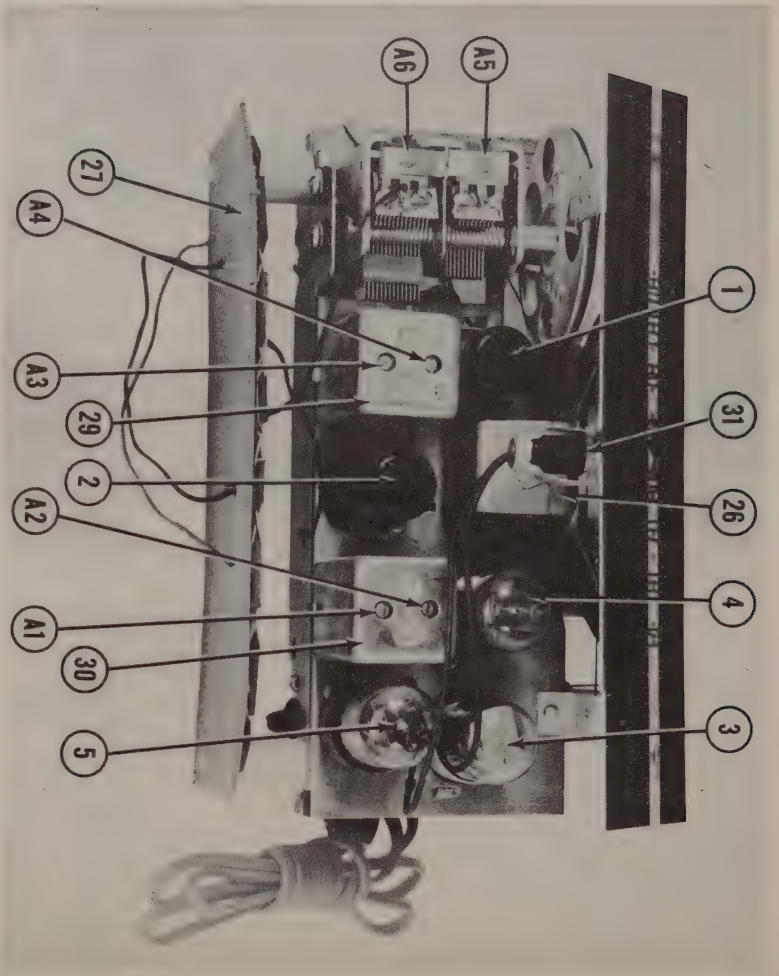
CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA ECA PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
15(A)	500K	1	40541	MR48	D13-133	M-60-Z	Volume Control
(B)	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 15A per instructions.
(C)	Switch		" "	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA ECA PART No.	IRC PART No.	IDENTIFICATION CODES
16	20KΩ	½		BTS-22K	Red-Blk.-Or. Osc. Grid
17	250KΩ	½		BTS-270K	Red-Grn.-Yl. Output Grid
18	25KΩ	½		BTS-27K	Red-Grn.-Or. Grid Bias
19	1 Meg.	½		BTS-1 Meg.	Br.-Blk.-Grn. AVC Network
20	50KΩ	½		BTS-47K	Grn.-Blk.-Or. AVC Network
21	10 Meg.	½		BTS-10 Meg.	Br.-Blk.-Blue 1st AF Grid
22	200KΩ	½		BTS-220K	Red-Blk.-Yl. 1st AF Plate
23	1500Ω	2	RS-195EA	BW-2-1500	Br.-Grn.-Red Filter
24	200KΩ	½		BTS-200K	Red-Blk.-Yl. Line Isolating

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		ECA PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
25	2450Ω	3.25Ω	177Ω	1.02Ω	S-TA-115	A-3876*	T-13842*	8775	*Requires one new mounting hole.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			ECA PART No.	JENSEN PART No.	UTAH PART No.	
26	FIELD	VC IMP.	S-QL-104	ST-1071	5PY1	†Improvise mounting bracket or drill and tap magnet frame.
	PM	3.25Ω				
	CONE DIA.	VC DIA.	NOT REPLACEABLE-USE COMPLETE SPEAKER UNIT.			
	4-5/8"	9/16"				

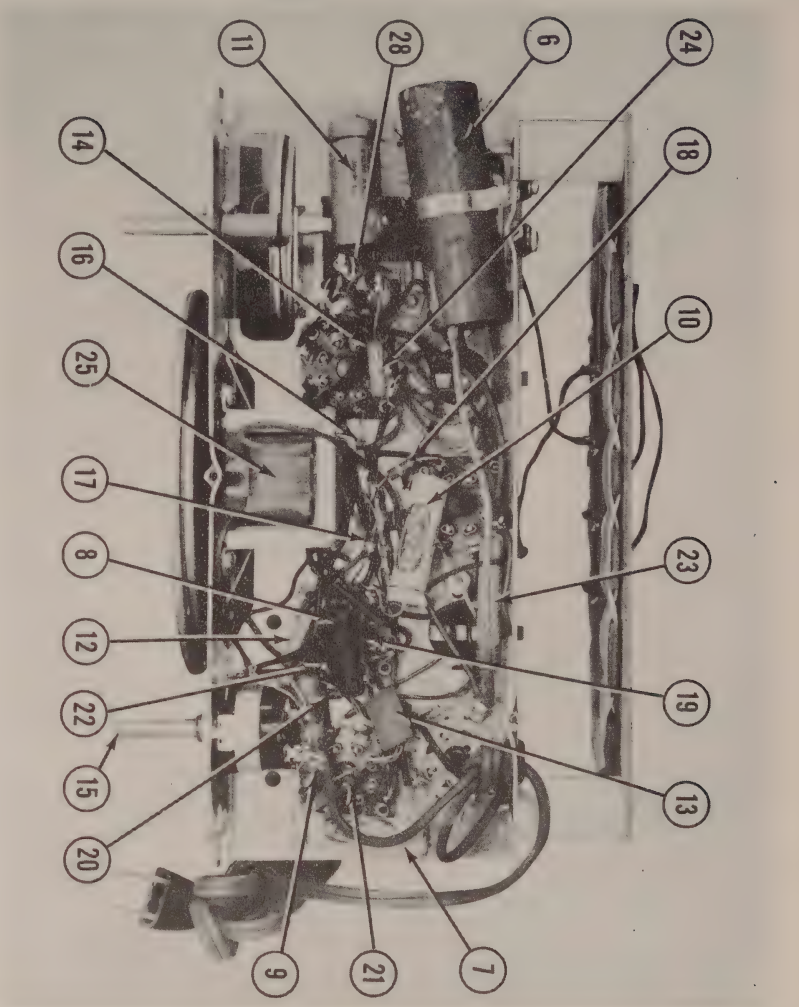
R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	ECA PART No.	MEISSNER PART No.	
27	Loop Ant.	0Ω	1Ω	C-ZQ499		
28	Osc.	.5Ω	5.5Ω	S-LR-120	14-1040	
29	Input IF	26Ω	28Ω	S-LR-121	16-6658	
30	Output IF	29Ω	29Ω	S-LR-122	16-6660	

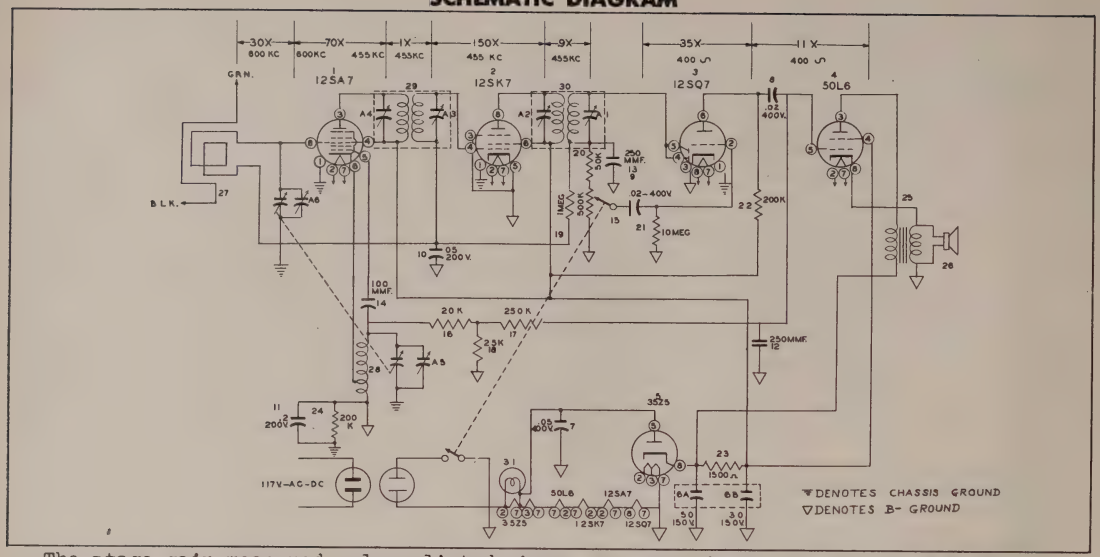
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					ECA PART No.		
31	Min. Bayonet	6-8	0.15	Brown	1P-214		47

CHASSIS—BOTTOM VIEW

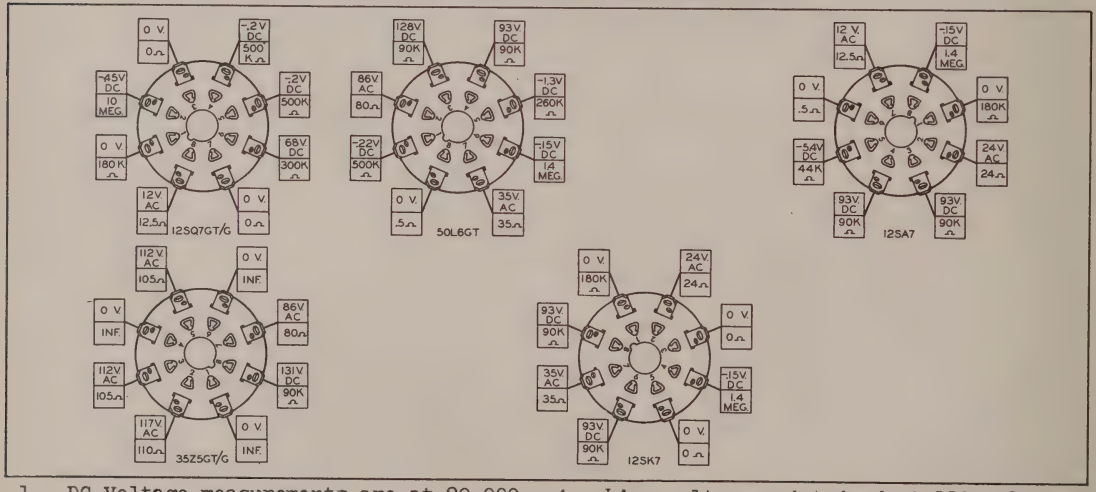


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of + 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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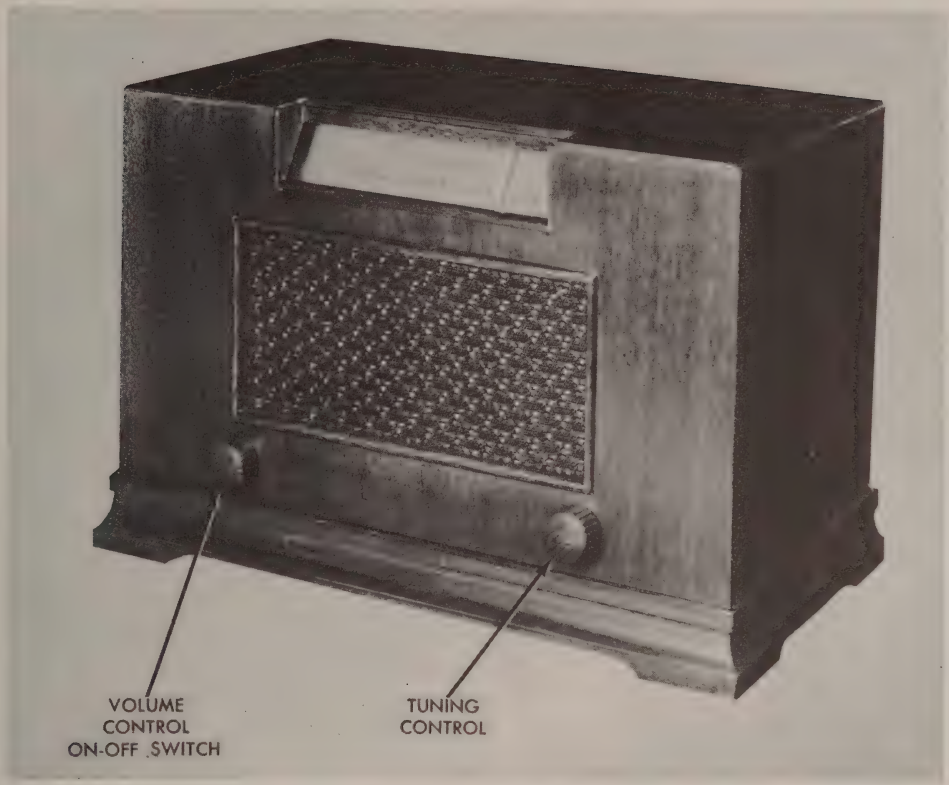
LEARADIO
MODELS 561, 562, 563



LEARADIO MODEL 561

LEARADIO
MODELS 561, 562, 563

TRADE NAME	Learadio, Models 561, 562, 563
MANUFACTURER	Lear Incorporated - 110 Ionia Ave., N.W. - Grand Rapids 2, Michigan
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (FIVE)	Types 12SA7 Converter, 12SK7 IF Amplifier, 12SQ7 DET.-AVC-1st AF, 50L6GT Power Output, 35Z5GT Rectifier
POWER SUPPLY	117 Volts AC-DC Rating .235 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	540KC to 1725KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.05MFD.	High side to signal grid of 12SA7. Low side to B-.	455KC	High end of dial.	Across voice coil.	A1, A2, A3, A4.	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between generator ground lead and receiver B-. Also decrease dummy ant. to .001 MFD to prevent excessive hum modulation.
200MMFD	High side to ant. lead. Low side to B-.	1500KC	1500KC	"	A5, A6	Adjust for maximum output.
"	"	600KC	600KC	"	A7	Adjust for maximum output. Repeat adjustments on A5, A6, and A7 as given until there is no further improvement.

Adjust dial pointer to last mark at low frequency end with gang condenser fully closed. Volume control at maximum volume and output from signal generator no higher than necessary to obtain output reading. Use insulated alignment screwdriver.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		LEAR PART No.	STANDARD REPLACEMENT		
1	Converter	12SA7	12SA7	8R	
2	IF Amp.	12SK7	12SK7	8N	
3	Det.-AVC-AF	12SQ7	12SQ7	8Q	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	LEAR PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	
6(A)	30	150	B52326	2N520	DHN-2x50-150	TA-530	PRSA150-60-20	BRD3515	Filter - Green
(B)	50	150							Filter - Red
7	.05	600	C56656	TP415	S-6-05	TC-15	684-.05	DT6S5	Line Filter
8	.05	400	C56628	TP426	S-4-05	TC-15	484-.05	DT4S5	50L6 Plate Bypass
9	.004	200	C56589	TP407	S-6-004	TC-24	484-.004	DT6D4	Audio Coupling
10	.02	200	C56596	TP423	S-4-02	TC-12	484-.02	DT4S2	" "
11	.05	200	C56600	TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
12	.1	400	C56631	TP428	S-4-1	TC-1	484-.1	DT4P1	Line Isolating
13	.001	200	C56585	TP404	S-6-001	TC-21	684-.001	DT6D1	Ant. Coupling
14	220	500	B56059	TP404	MO.5-325	1FM-325	1468-.00025	5W5T25	12SQ7 Plate Bypass
15	47	500	B56055	MC240	MO.5-45	1FM-45	1468-.00005	5W5Q5	Osc. Grid

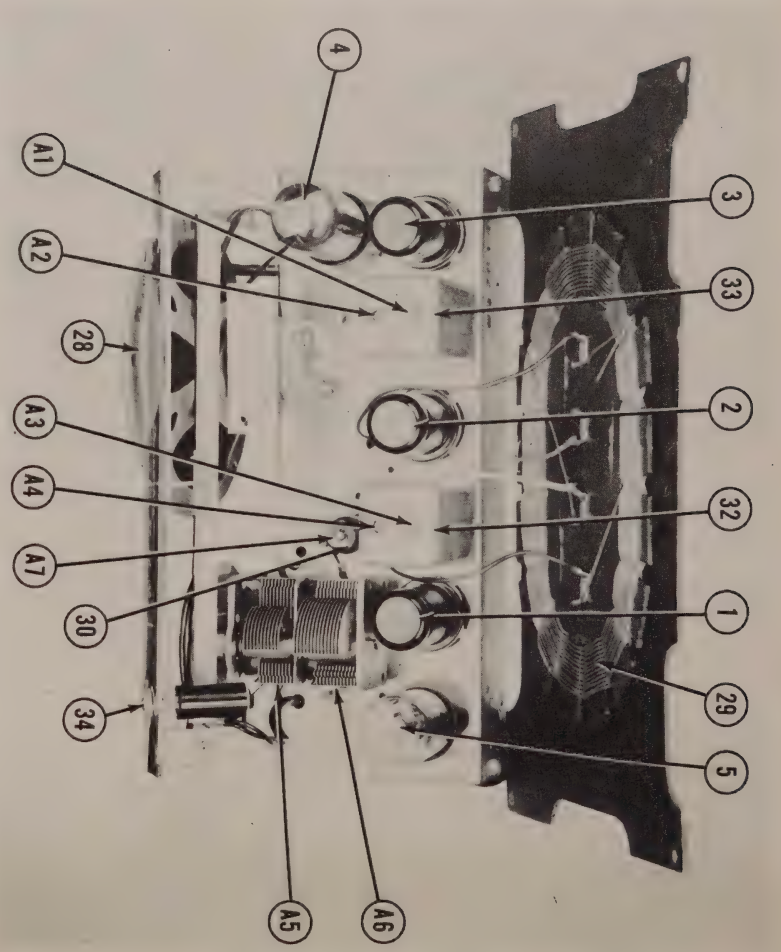
RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	LEAR PART No.	IRC PART No.	
17	15 Meg.	½	B55496	BTS-15 Meg.	Br.-Grn.-Blue AVC Network
18	22KΩ	½	B55479	BTS-22K	Red-Red-Or. Osc. Grid
19	220KΩ	½	B55485	BTS-220K	Red-Red-Yl. Line Isolating
20	2.2 Meg.	½	B55491	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
21	6.8 Meg.	½	B55494	BTS-6.8 Meg.	Blue-Gray-Grn. 1st AF Grid
22	470KΩ	½	B55487	BTS-470K	Yl.-Vi.-Yl. 1st AF Plate Load
23	470KΩ	½	B55487	BTS-470K	Yl.-Vi.-Yl. Output Grid
24	150Ω	½	B55466	BW-½-150	Br.-Grn.-Br. Output Cathode
25	1200Ω	1	B55674	BW-1-1200	Br.-Red-Red Filter
26	15Ω	½	B55460	BW-½-15	Br.-Grn.-Blk. Pilot Light Ballast

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	LEAR PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	
26(A)	500KΩ	1	D56340	MK401	D13-133	AM-60-Z	Volume Control
(B)	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 16A per instructions.
(C)	Switch		" "	M26	41	SW-A	" " " "

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		LEAR PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
27	2000Ω	3.35Ω	188Ω	.5Ω	B52531	A-3876	T-14S62	8775	

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			LEAR PART No.	JENSEN PART No.	UTAH PART No.	
28	FIELD PM	VC IMP. 3.35Ω	D53450	ST-106*	5PY*	*Fabricate mounting bracket or drill and tap speaker magnet frame to match holes of original mounting bracket.
	CONE DIA. 4-13/16"	VC DIA. 1/2"	NOT READILY	REPLACEABLE	- USE COMPLETE UNIT.	

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	LEAR PART No.	MEISSNER PART No.	
29	Loop Ant.	0Ω	.5Ω	B52570		
30	Ant. Load	2.5Ω		B52697		
31	Osc.	.5Ω	5Ω	B65015	14-1040	
32	Input IF	20Ω	19Ω	B53350	16-6658	
33	Output IF	17Ω	17Ω	B53361	16-6670	

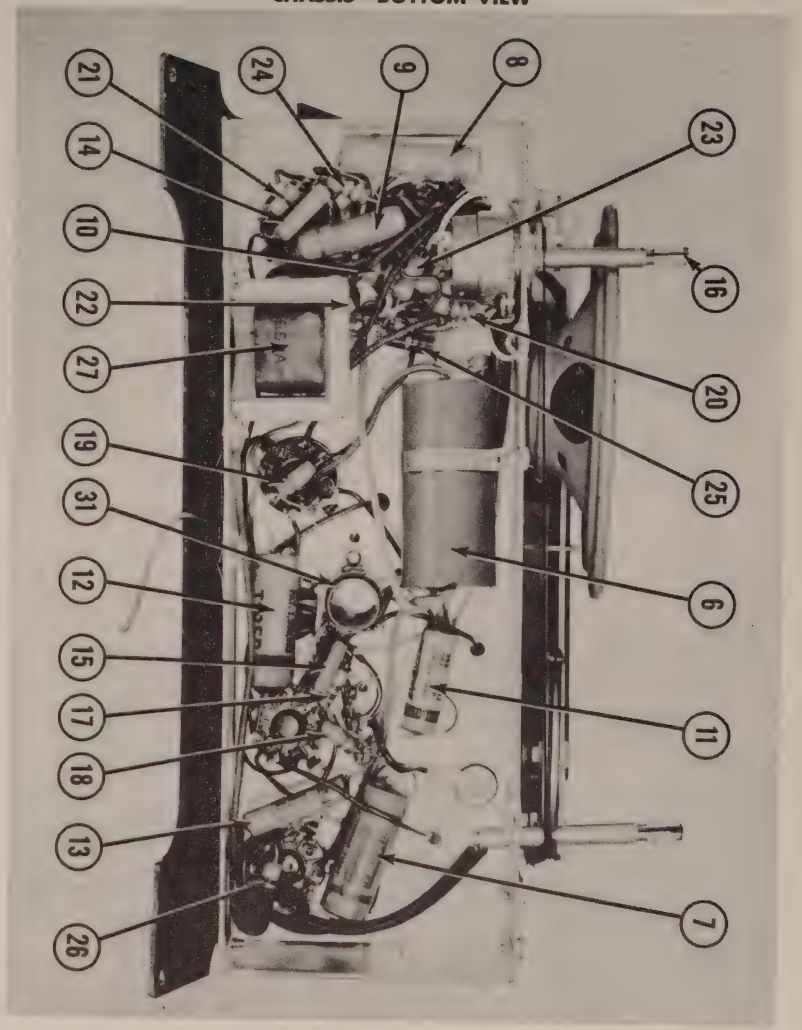
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					LEAR PART No.		
34	Bayonet	6-8	0.15	Brown	A70535		47

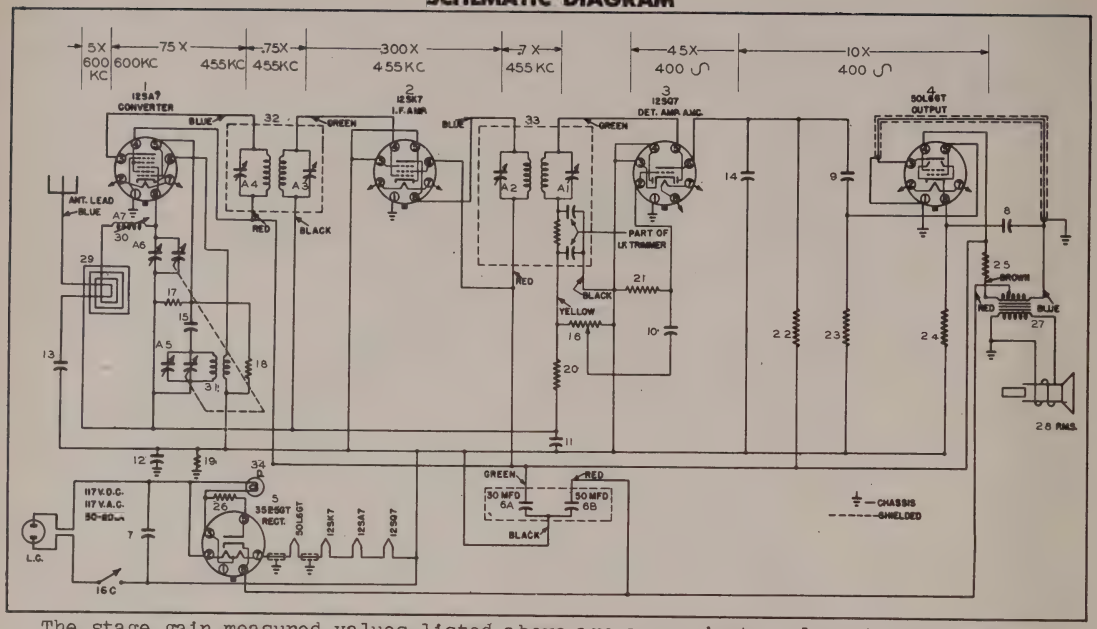
MISCELLANEOUS

ITEM No.	PART NAME	LEAR PART No.	NOTES
A5	Tuning Cap.	A52452	2 Gang Variable Capacitor
A6	Trimmer	Part of A52452	Oscillator Trimmer
	"	" " "	Antenna Trimmer

CHASSIS—BOTTOM VIEW

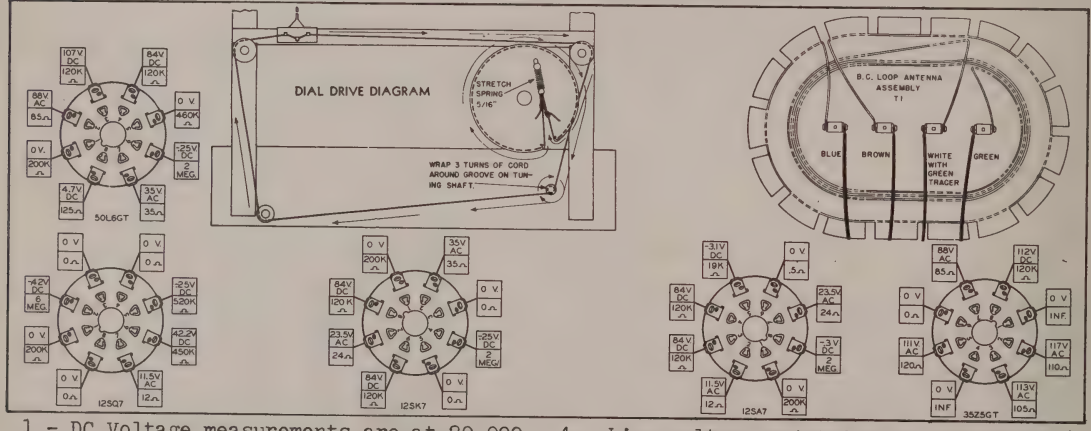


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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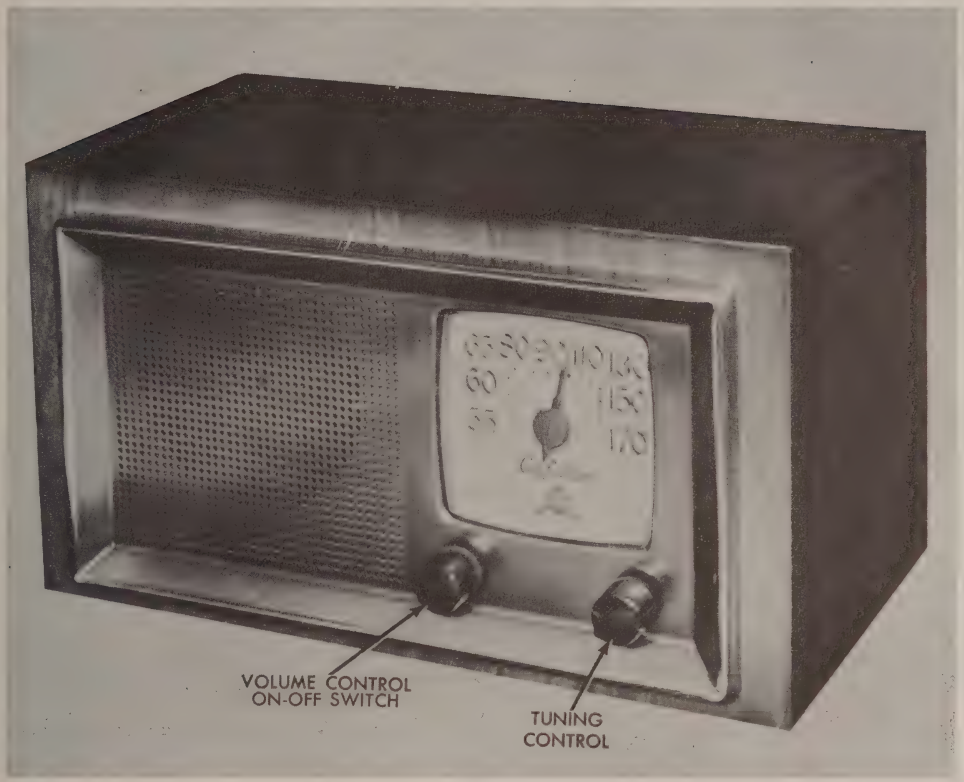
GILFILLAN
MODELS 56A, 56B,
56C, 56D



GILFILLAN 56B

GILFILLAN
MODELS 56A, 56B,
56C, 56D

TRADE NAME	Gilfillan Models 56A, 56B, 56C, 56D
MANUFACTURER	Gilfillan Bros. Inc. - 1815 Venice Blvd. - Los Angeles, California
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (FIVE)	TYPES 12SA7 Converter, 12SK7 IF Amplifier, 12SQ7 Det.-AVC-1st AF, 50L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	117 Volts AC-DC Rating .235 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	540KC to 1730KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
50MMFD	High side to antenna lead. Low side to B-.	455KC	High freq. end of dial.	Across voice coil	A1,A2 A3,A4.	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between generator ground lead and B-.
"	"	1500KC	1500KC	"	A5, A6	Adjust for maximum output with receiver loop in same position it will be when in cabinet.

To check dial pointer turn gang fully open and adjust dial pointer to dash under 1700KC. Volume control at full volume and output from signal generator no higher than necessary to give output reading. Use insulated alignment screwdriver for adjusting.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: GILFILLAN PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	12SA7	12SA7	8R	
2	IF Amp.	12SK7	12SK7	8N	
3	Det.-AVC-AF	12SQ7	12SQ7	8Q	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: GILFILLAN PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6(A)	40	150		FP311	DY-2x50-150	EL-352	AF1010D	UP6CJ41	▲ Filter
(B)	60	150							■ "
(C)	10	25			M-10-25		PRS25-10		Cath. Bypass
7	.05	400		TP426	S-4-05	TC-15	464-.05	DT4S5	Line Filter
8	.25	400		TP430	S-4-25	TC-2	484-.25	DT4P25	Line Isolating
9	.01	400		TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
10	.002	600		TP405	S-6-002	TC-22	684-.002	DT6D2	Audio Plate Bypass
11	.25	400		TP430	S-4-25	TC-2	484-.25	DT4P25	Audio Plate Decoup.
12	.01	200		TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
13	.05	400		TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
14	.05	400		TP426	S-4-05	TC-15	484-.05	DT4S5	RF Bypass Pwr. Supp.
15	.005	600		TP406	S-6-005	TC-25	684-.005	DT6D5	Ant. Coupling
16	250	500		MC240	MO.5-325	1FM-325	1468-.00025	5W5T25	RF Bypass (Diode)
17	100	500		MC235	MO.5-31	1FM-31	1468-.0001	5W5T1	Osc. Grid Cond.

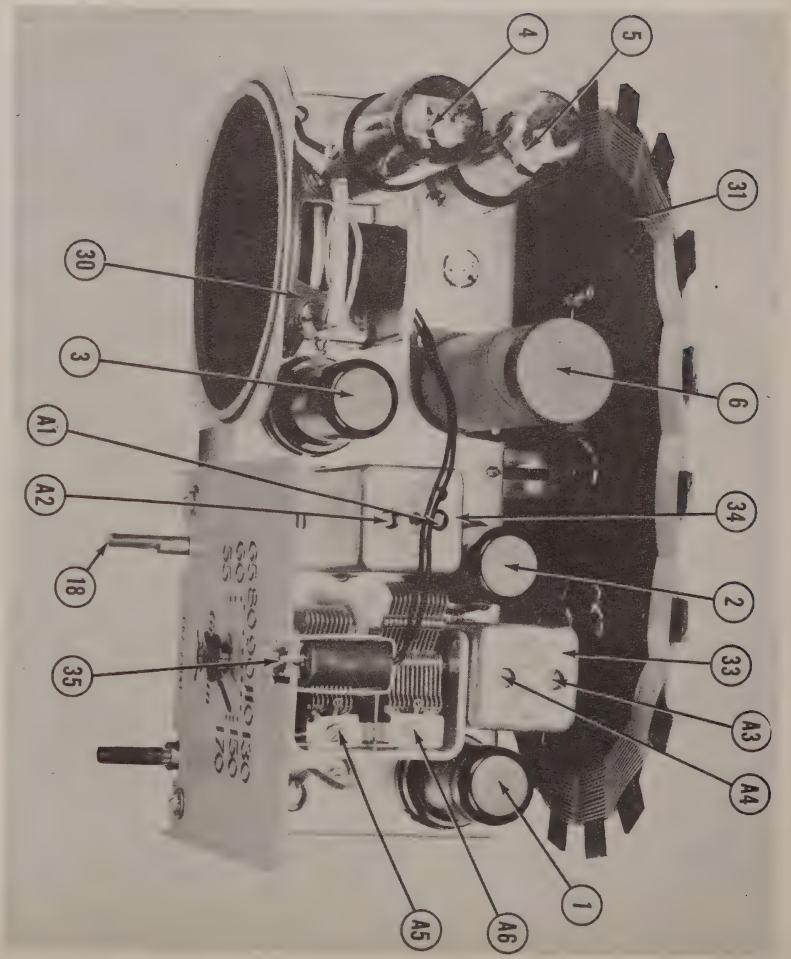
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: GILFILLAN PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
18(A)	500KΩ	1		MR48	D13-133	M-60-Z	Volume Control
(B)	Shaft			Not Req.	A	Not Req.	Attach to 18A per instr.
(C)	Switch			M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: GILFILLAN PART No.	IRC PART No.	IDENTIFICATION CODES
19	22KΩ	½		BTS-22K	Red-Red-Or. Osc. Grid
22	22Ω	½		BW-½-22	Red-Red-Blk. Pilot Light Ballast
20	2.2 Meg.	½		BTS-2.2 Meg	Red-Red-Grn. AVC Network
22	4.7 Meg.	½		BTS-4.7 Meg	Yl.-Vi.-Grn. 1st AF Grid
23	47KΩ	½		BTS-47K	Yl.-Vi.-Or. Plate Filter
24	220KΩ	½		BTS-220K	Red-Red-Yl. 1st AF Plate Load
25	390KΩ	½		BTS-390K	Or.-White-Yl. Output Grid
26	220Ω	½		BW-½-220	Red-Red-Br. Output Cathode
27	500Ω	3		AB-500	Filter
28	220KΩ	½		BTS-220K	Red-Red-Yl. Line Isolating

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		GILFILLAN PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
29	2000Ω	3.5Ω	172Ω	.82Ω		A-3876	T-14882	8775	

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			GILFILLAN PART No.	JENSEN PART No.	UTAH PART No.	
30	FIELD PM	VC IMP. 3.5Ω	C14-23036	ST-113*	4PY*	*Fabricate mounting bracket so that the replacement speaker mounts in the same position as the original.
	CONE DIA. 4"	VC DIA. 1"				

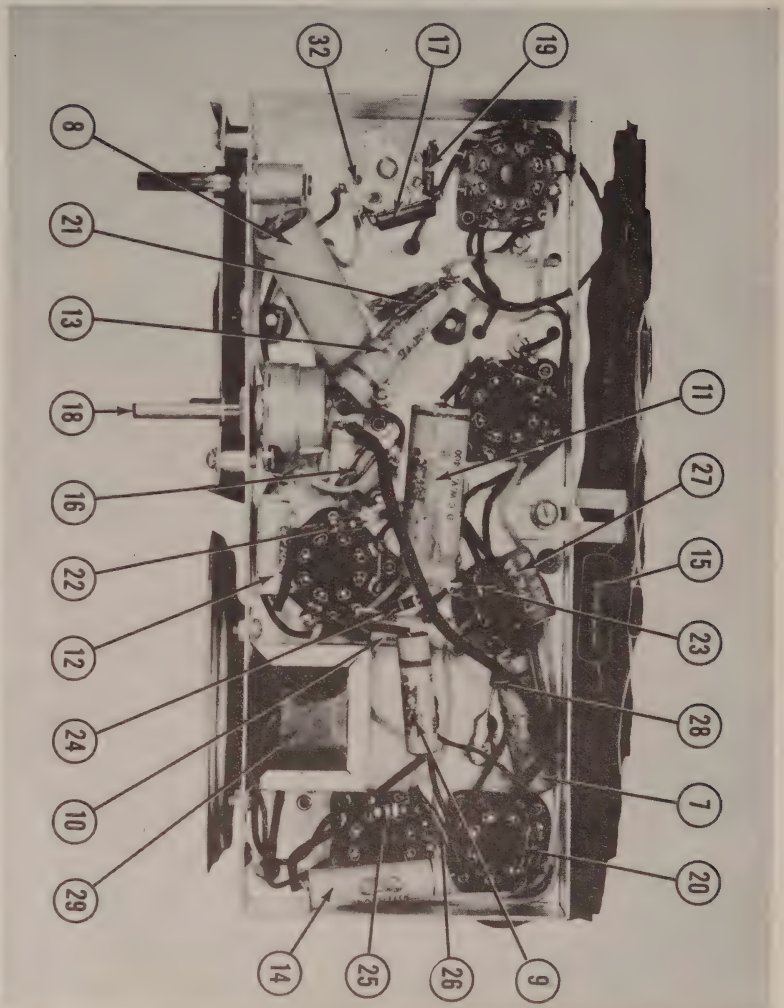
R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	GILFILLAN PART No.	MEISSNER PART No.	
31	Loop Ant.	.1Ω	1.4Ω	C00-16847		
32	Osc.	.5Ω	4Ω	B16-23136	14-1040	
33	Input IF	16Ω	20Ω	B00-23126	16-6658	
34	Output IF	16Ω	16Ω	B00-23127	16-6660	

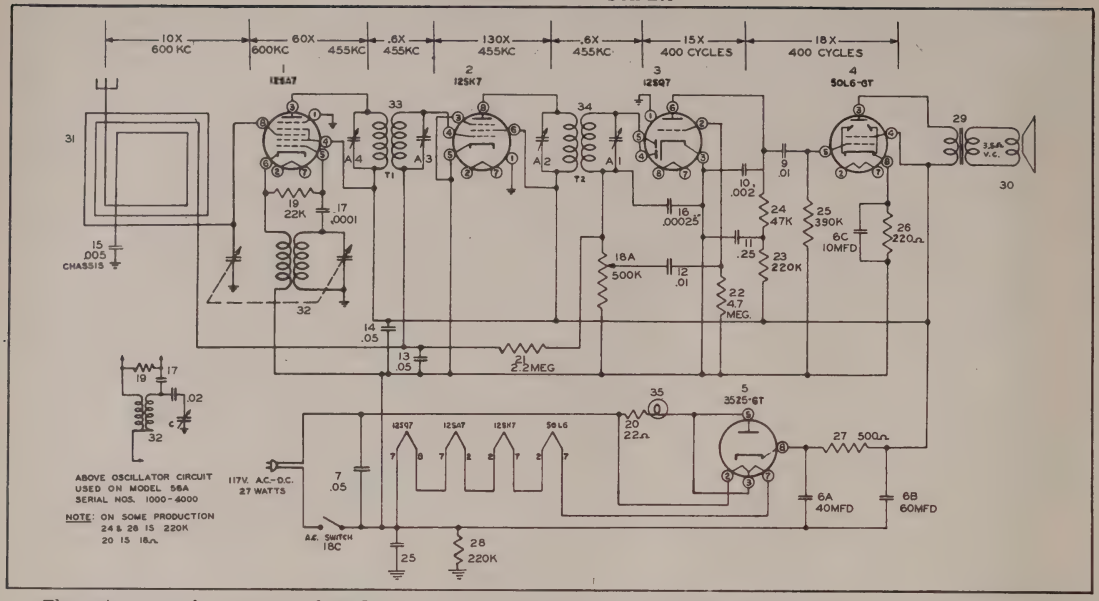
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					GILFILLAN PART No.		
35	Bayonet	6-8	.15	Brown			47

CHASSIS—BOTTOM VIEW

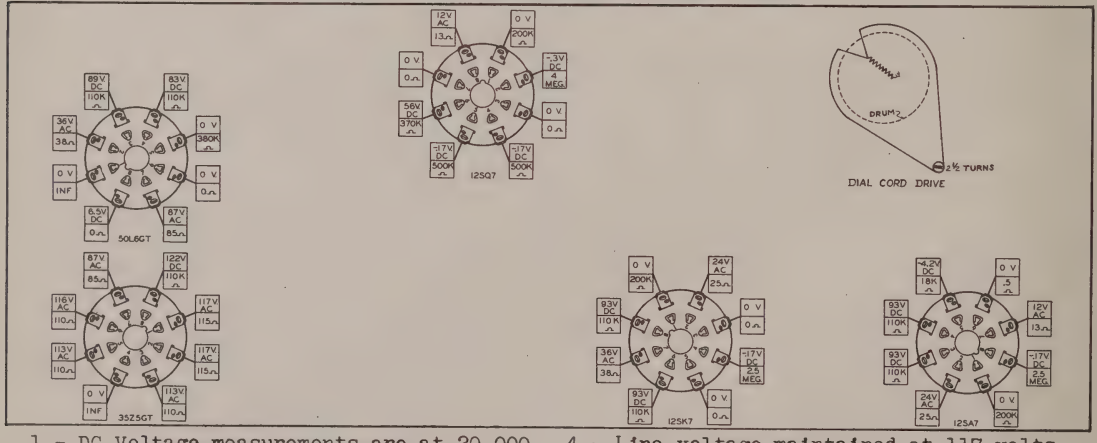


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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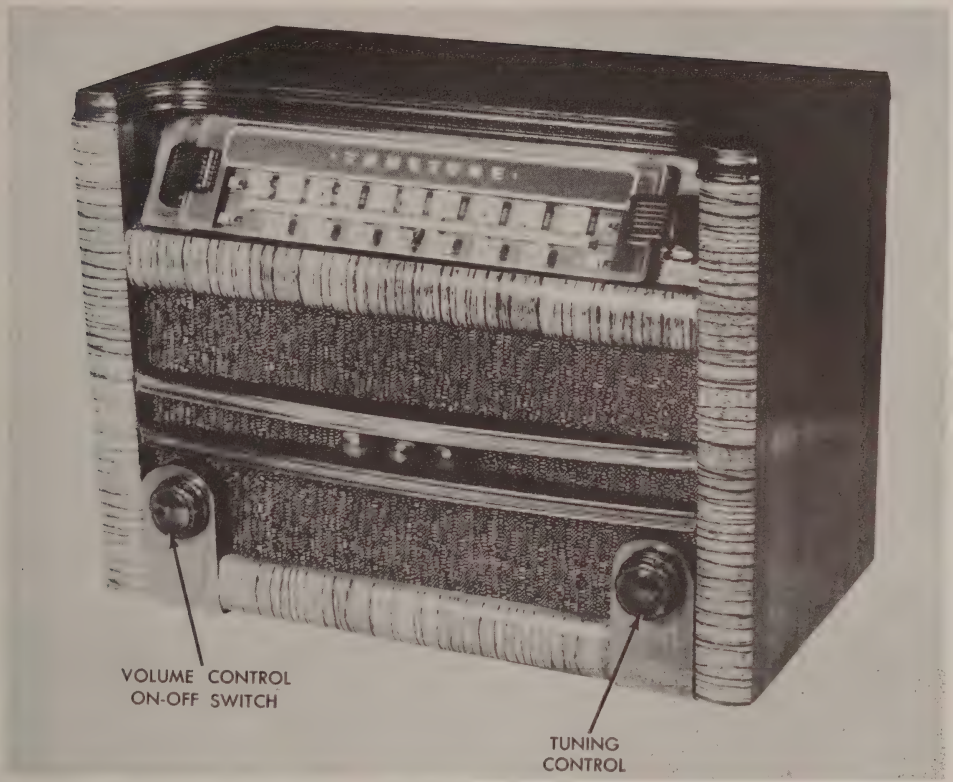
TRUETONE
MODEL D2620



TRUETONE MODEL D2620

TRUETONE
MODEL D2620

TRADE NAME	Truetone Model D2620
MANUFACTURER	Western Auto Supply Co. - 2107 Grand Ave.- Kansas City, Missouri
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (FIVE)	Types 12SA7 Converter, 12SK7 IF Amplifier, 12SQ7 Det.-AVC-1st AF, 50L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	117 Volts AC-DC Rating .265 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	540KC to 1630KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1MFD	High side to ant. stator of gang cond. Low side to B-.	455KC	Rotor full open.	Across voice coil.	A1,A2 A3,A4.	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between generator ground lead and receiver B-. Also decrease dummy ant. to .001 MFD. to prevent excessive hum modulation.
"	"	1630KC	"	"	A5	" "
	Loop	1400KC	Tune to 1400 KC signal.	"	A6	Adjust for maximum output. Connect output of signal generator to loop of few turns of wire and radiate signal into receiver loop by spacing about 2 feet.

Volume control at maximum volume and output from signal generator no higher than necessary to produce output reading. Use insulated alignment screwdriver for adjusting.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: TRUETONE PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	12SA7	12SA7	8R	
2	IF Amp.	12SK7GT	12SK7GT	8N	
3	2ndDet.-AVC-1st AF	12SQ7	12SQ7	8Q	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: TRUETONE PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6(A)	50	150	67A3	2N520	DHN-2x50-150	TA-530	PRSA150-50-30	BRD3515	Filter - Red
(B)	30	150							Filter - Yellow
7	.05	400	64B1-22	TP426	S-4-05	TC-15	484-.05	DT4S5	Line Filter
8	.2	900	64A2-1	TP419	S-6-2	TC-2	684-.2	DT6P2	Line Isolating
9	.02	400	64B1-24	TP423	S-4-02	TC-12	484-.02	DT4S2	50L6 Plate Bypass
10	.01	400	64B1-25	TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
11	.01	400	64B1-25	TP421	S-4-01	TC-11	484-.01	DT4S1	" "
12	.01	200	64B1-30	TP421	S-4-01	TC-11	484-.01	DT4S1	AVC-Filter
13	.02	400	64B1-24	TP423	S-4-02	TC-12	484-.02	DT4S2	Osc. Series Cond.
14	.005	600	64B1-12	TP408	S-6-005	TC-25	684-.005	DT6D5	Ant. Coupling
15	500	500	65B7-27	MC245	M0.5-35	1FM-35	1468-.0005	5W5T5	Audio Plate Bypass
16	250	500	65B7-22	MC240	M0.5-325	1FM-325	1468-.00025	5W5T25	RF Bypass Vol. Cont.
17	20	500	65B5-5	MC220	M0.5-425	MS-42	1468-.000025	5W5Q2	Fixed Trimmer
18	50	500	65B5-11	MCB225	M0S.5-45	MS-45	1469-.00005	5R5Q5	Osc. Grid Cond.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: TRUETONE PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
19(A)	1 Meg	1	75B1-6	MK402	D13-137	AM-63-4	Volume control
(B)	Shaft		Not Req.	Not Req.	E	KS8-3	Attach to 19A per instructions
(C)	Switch		" "	M26	41	SW-A	" " " " "

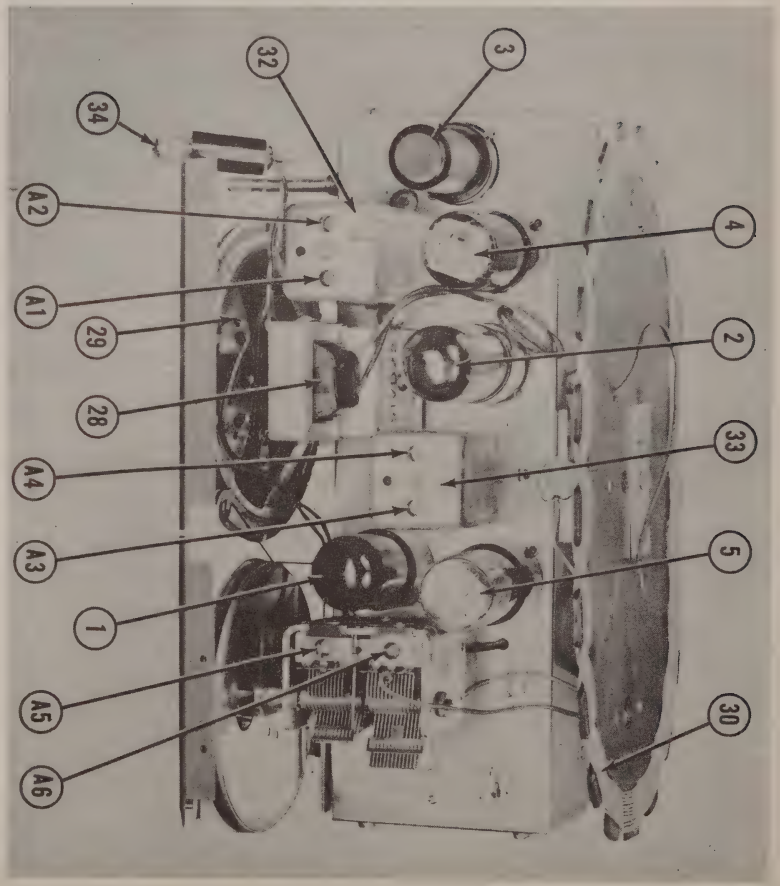
RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: TRUETONE PART No.	IRC PART No.	IDENTIFICATION CODES
20	22KΩ	½	60B8-223	BTS-22K	Red-Red-Or. Osc. Grid
21	470KΩ	½	60B8-474	BTS-470K	Yl.-Vi.-Yl. AVC Network
22	10 Meg.	½	60B8-106	BTS-10 Meg.	Br.-Blk.-Blue 1st AF Grid
23	220KΩ	½	60B8-224	BTS-220K	Red-Red-Yl. 1st AF Plate Load
24	470KΩ	½	60B8-474	BTS-470K	Yl.-Vi.-Yl. Output Grid
25	150Ω	½	60B8-151	BW-½-150	Br.-Grn.-Br. Output Cathode
26	150KΩ	½	60B8-154	BTS-150K	Br.-Grn.-Yl. Line Isolating

FILTER CHOKE

ITEM NO.	RATINGS: TOTAL DIRECT CURRENT	RATINGS: DC RESISTANCE	RATINGS: INDUCTANCE (0 CURRENT 1000~)	REPLACEMENT DATA: TRUETONE PART NO.	STANCOR PART NO.	THORDARSON PART NO.	UTAH PART NO.
27	67MA.	319Ω	3.6H	74A1	C-1711	T-14C63	4818

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		TRUETONE PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
28	2350Ω	3.15Ω	150Ω	.52Ω	78B4-1	A-3876*	T-14S82†	8775†	†Bend mounting tabs down and mount by original bracket. *Fabricate mounting bracket

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			TRUETONE PART No.	JENSEN PART No.	UTAH PART No.	
29	FIELD PM	VC IMP. 3.15Ω	78B4-1	ST-107#	5PZ#	#Fabricate bracket or drill and tap magnet frame so the replacement speaker mounts in the same position as the original.
	CONE DIA. 4-9/16"	VC DIA. 1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	TRUETONE PART No.	MEISSNER PART No.	
30	Loop Ant.	0Ω	1Ω	69B4		
31	Osc.	.5Ω	4.5Ω	69A5	14-1040	
32	Input IF	18Ω	18Ω	72B3	16-6658	
33	Output IF	21Ω	22Ω	72B4	16-6660	

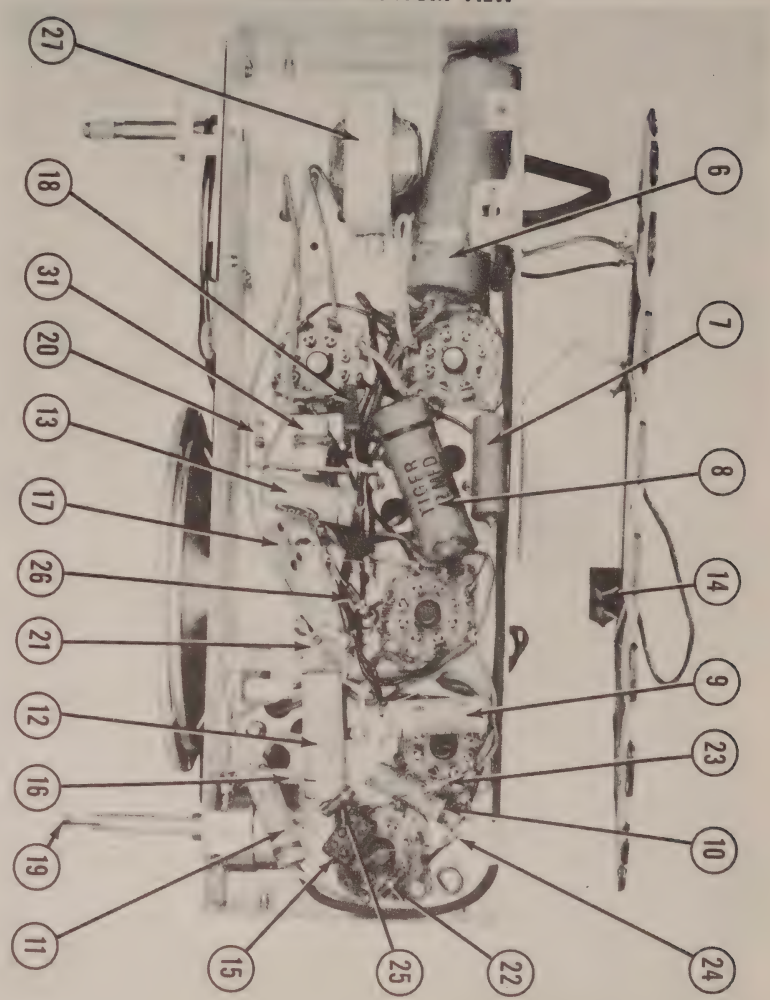
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					TRUETONE PART No.		
34	Bayonet	6-8	0.15	Brown	81A1-8		47

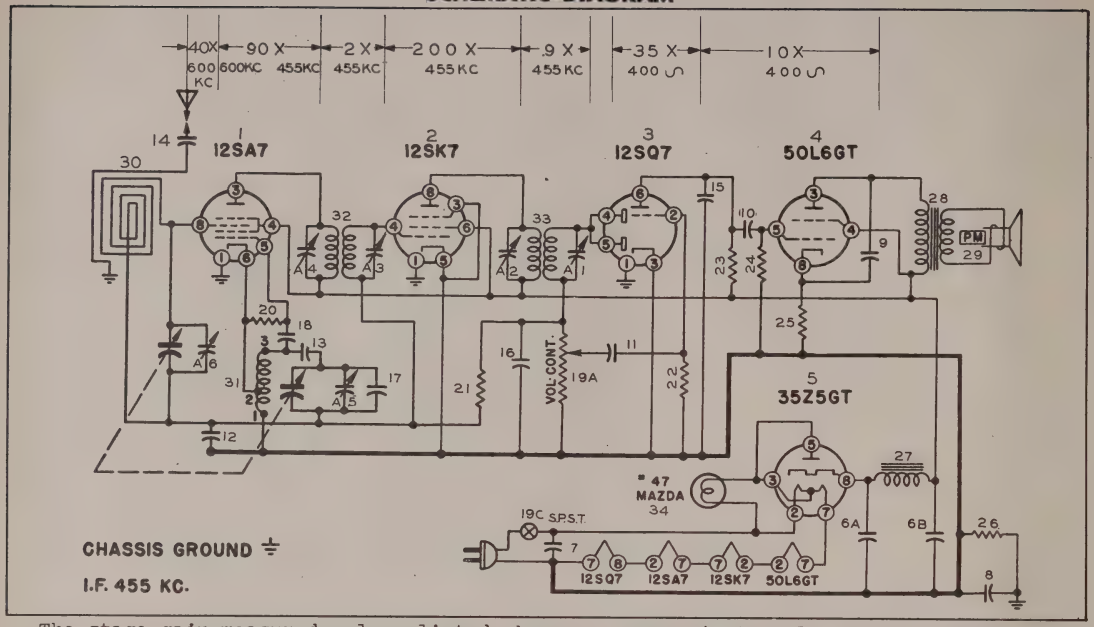
MISCELLANEOUS

ITEM No.	PART NAME	TRUETONE PART No.	NOTES
	Tuning Cap	68A2	2 Gang Tuning Capacitor
A5	Trimmer	Part of 68A2	Oscillator Trimmer
A6	"	" " "	Antenna Trimmer
	Knob	33A10-2	Walnut
	Scale	21B16	Glass Dial

CHASSIS—BOTTOM VIEW

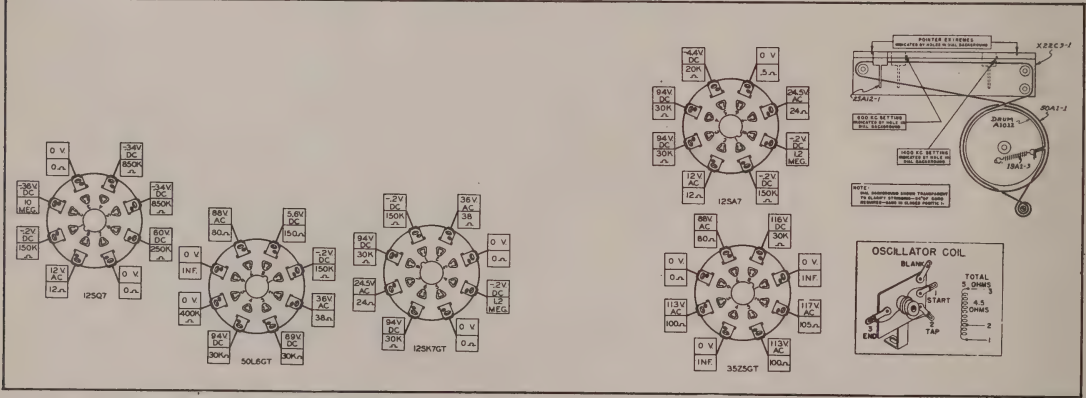


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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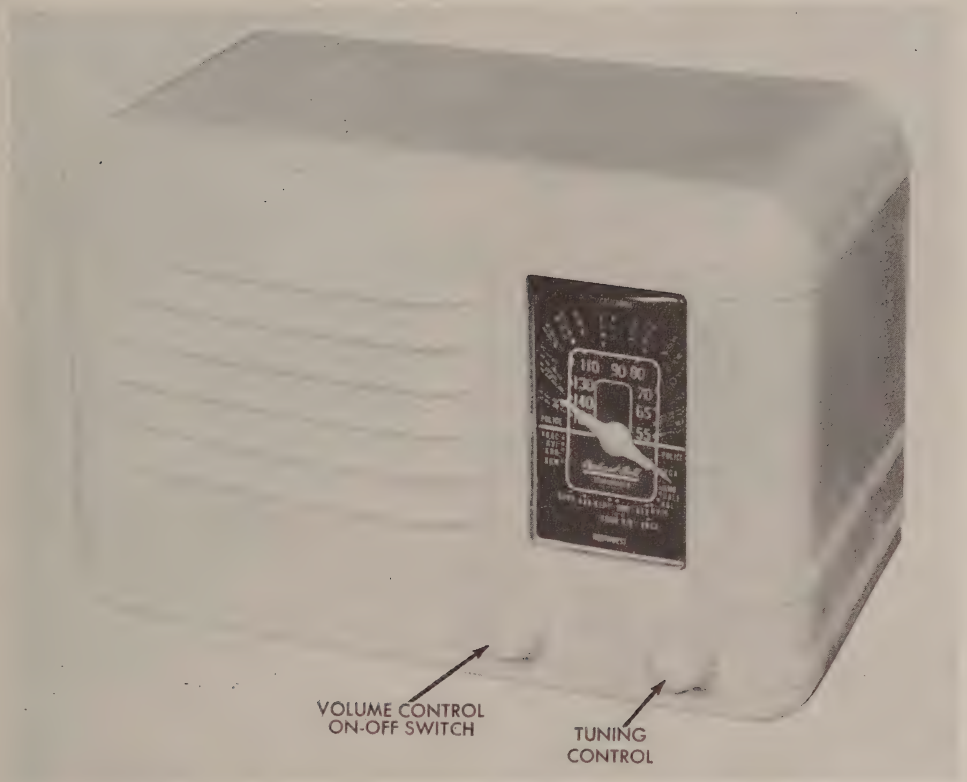
PACKARD-BELL
MODEL 5 FP



PACKARD-BELL MODEL 5FP

PACKARD-BELL
MODEL 5 FP

TRADE NAME	Packard-Bell, Model 5FP
MANUFACTURER	Packard-Bell Co. -1115 South Hope St. - Los Angeles, California
TYPE SET	AC Superheterodyne - Self Contained Loop Antenna
TUBES (FIVE)	Types 6SA7 Converter, 6SK7 IF Amp., 6SQ7 Det.-AVC-AF, 6K6GT Power Output, 6X5GT Rectifier
POWER SUPPLY	117 Volts AC 60 Cycles Rating .290 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	550KC to 1740KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.01MFD.	High side to signal grid of 6SA7. Low side to chassis.	455KC	550KC	Across voice coil.	A1,A2 A3,A4.	Adjust for maximum output.
	*Loop	1750KC	1750KC	"	A5	Adjust for maximum output.
	"	1330KC	1330KC	"	A6	Adjust for maximum output.
	"	570KC	570KC	"	Receiver Loop.	Adjust for maximum output.
	*Loop consists of standard loop or loop of few turns of wire connected to output of signal generator. Radiate signal into receiver loop by spacing (about 2 feet).					

Volume control at maximum volume and output from signal generator no higher than necessary to give output reading. Use insulated alignment screwdriver for adjusting.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: PACKARD-BELL PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	6SA7	6SA7	8R	
2	IF Amp.	6SK7	6SK7	8N	
3	Det.-AVC-AF	6SQ7	6SQ7	8Q	
4	Power Output	6K6GT	6K6GT	7S	
5	Rectifier	6X5GT)	6X5GT	6S	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: PACKARD BELL PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
6	20	350	24003	TC65	M-20-450	UT-203	PRS450-20	BR2045	Filter
7	10	350	24005	TC62	M-10-450	UT-123	PRS450-10	BR1045	Filter
8	.006	600	23015	TP409	S-6-006	TC-26	684-.006	DT6D6	6K6 Plate Bypass
9	.01	600	23006	TP410	S-6-01	TC-11	684-.01	DT6S1	Audio Coupling
10	.003	600	23016	TP406	S-6-003	TC-23	684-.003	DT6D3	" "
11	.001	600	23001	TP404	S-6-001	TC-21	684-.001	DT6D1	6SQ7 Plate Bypass
12	.05	400	23009	TP415	S-4-05	TC-15	484-.05	DT4S5	Screen Bypass
13	.05	400	23009	TP415	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
14	220	500	23228	MC240	M0.5-325	1FM-325	1468-.00025	5W5T25	RF Bypass Vol. Cont.
15	250	500		MC240	M0.5-325	1FM-325	1468-.00025	5W5T25	Osc. Grid Cond.

CONTROLS

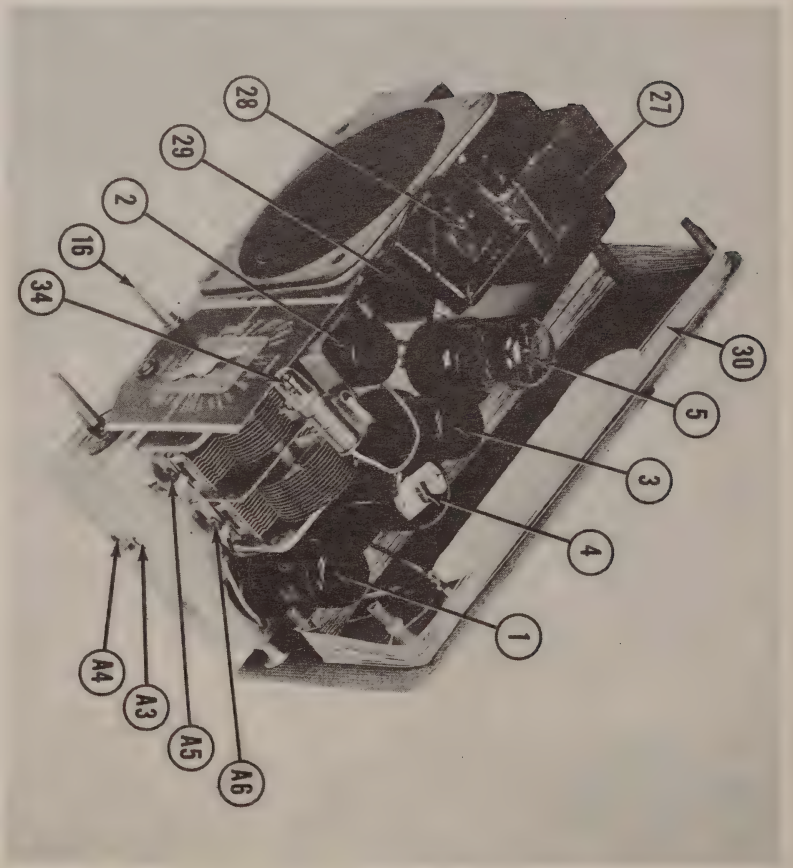
ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: PACKARD-BELL PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
16(A)	500KΩ	1	25001	MR48	D13-133	M-60-Z	Volume Control
(B)	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 16A per instructions.
(C)	Switch		" "	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: PACKARD-BELL PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
17	20KΩ	½	73041	BTS-22K	Red-Blk.-Or. Osc. Grid
18	2 Meg.	½	73055	BTS-2.2 Meg	Red-Blk.-Grn. AVC Network
19	100Ω	½	73013	BW-½-100	Br.-blk.-Br. IF Cathode
20	10KΩ	1	73073	BTS-10K	Br.-Blk.-Or. Screen Dropping
21	5 Meg.	½	73057	BTS-4.7 Meg	Grn.-Blk.-Grn. 1st AF Grid
22	3000Ω	2	73122	AB-1500	Or.-Blk.-Red Filter*
23	3000Ω	2	73122	AB-1500	Or.-Blk.-Red Filter*
24	100KΩ	½	73047	BTS-100K	Br.-Blk.-Yl. 1st AF Plate Load
25	1 Meg.	½	73053	BTS-1 Meg.	Br.-Blk.-Grn. Output Grid Load
26	270Ω	½	73018	BW-½-270	Red-Vi.-Br. Output Bias Supply

* IRC Part No. AB-1500 replaces both original 3000Ω resistors.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	PACKARD-BELL PART No.	STANCOR PART No.	THORDARSON PART No.	UTAH PART No.
27	117V. @ .29A	470V.CT @ .04A	6V. @ 2.A		89002	P-6297†	T-13R19†	

† Disregard 5 Volt Winding.

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		PACKARD-BELL PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
28	4650Ω	3.56Ω	610Ω	.98Ω	89402	A-3877‡	T-14S81‡	8775‡	‡Drill new mounting hole.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			PACKARD-BELL PART No.	JENSEN PART No.	UTAH PART No.	
29	FIELD PM	VC IMP. 3.2	83003	ST-113‡	4PY‡	‡Drill and tap magnet frame or fabricate new mounting bracket.
	CONE DIA. 4"	VC DIA. ½"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	PACKARD-BELL PART No.	MEISSNER PART No.	
30	Loop Ant.	0Ω	1.8Ω	29308	14-1040	
31	Osc. Coil	1Ω	5Ω	29203	16-6661	
32	Input IF	26Ω	20Ω	29002		
33	Output IF	25Ω	15Ω	29003		

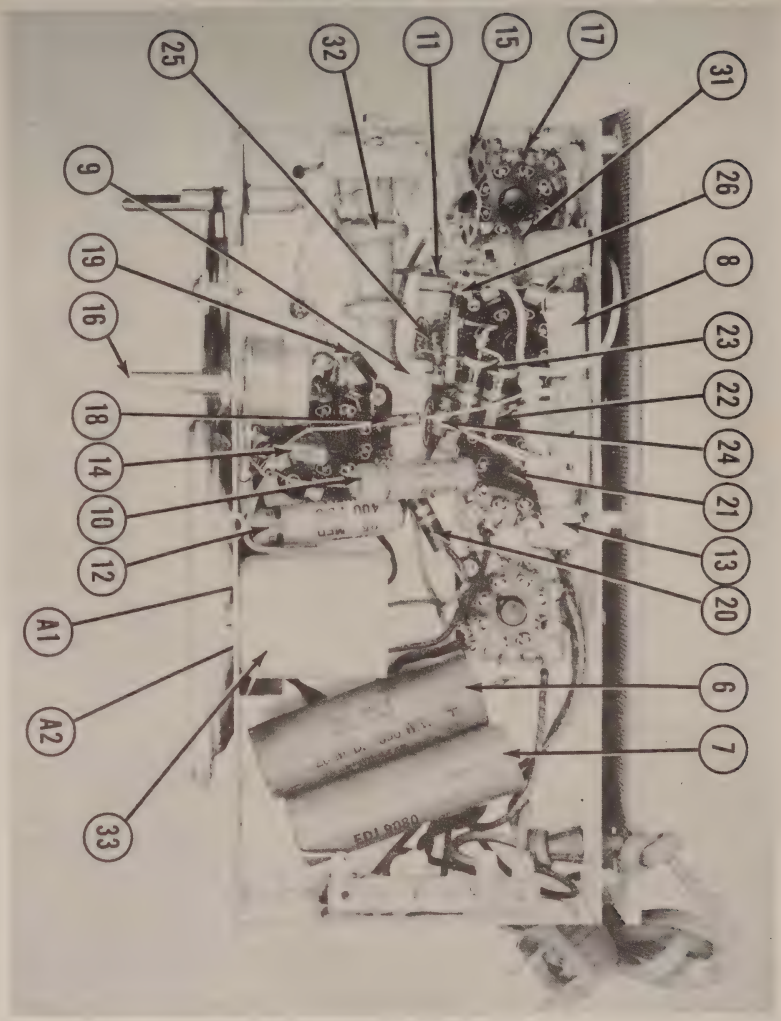
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					PACKARD-BELL PART No.		
34	Bayonet	6-8	0.25	Blue	79009		44

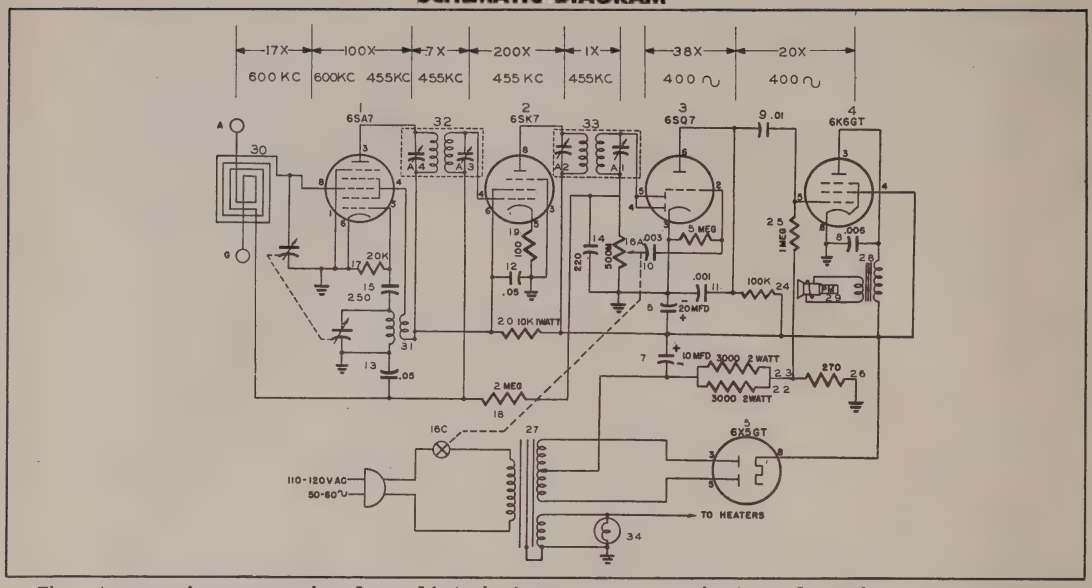
MISCELLANEOUS

ITEM No.	PART NAME	PACKARD-BELL PART No.	NOTES
	Tuning Cap	23503	2 gang Variable Capacitor
A5	Trimmer	Part of 23503	Oscillator Trimmer
A6	"	" " "	Antenna Trimmer
	Knob	52004	Volume, Tuning
	Pointer	67005	Dial Indicator
	Scale	38003	Dial
	Crystal	55003	"

CHASSIS—BOTTOM VIEW

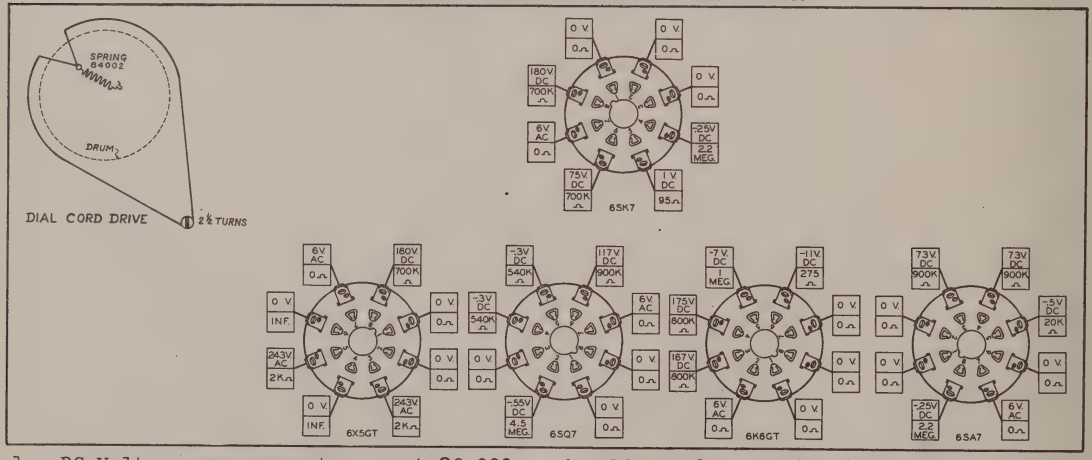


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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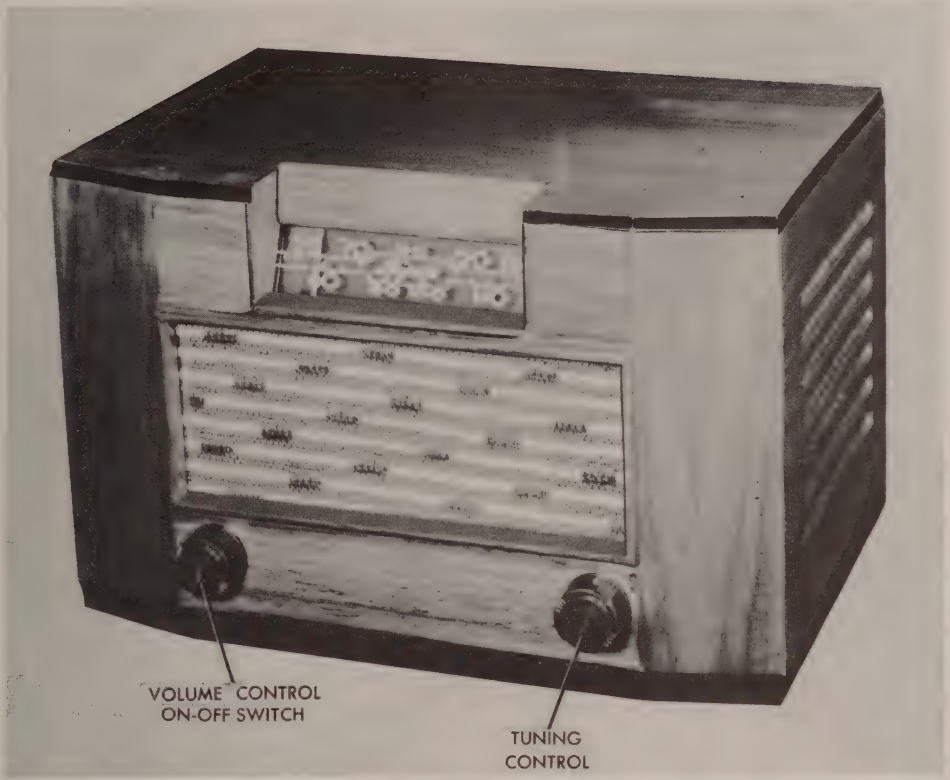
MAJESTIC
MODEL 5A410 (CHASSIS 4501)
MODEL 5A430 (CHASSIS 4504)



MAJESTIC MODEL 5A430

TRADE NAME	Majestic, Model 5A410 (Ch. 4501), Model 5A430 (Ch. 4504)
MANUFACTURER	Majestic Radio and Television Corp. - St. Charles, Illinois
TYPE SET	AC - DC Superheterodyne - Self-Contained Loop Antenna
TUBES (FIVE)	Types 12SA7GT Converter, 12SK7GT IF Amplifier, 12SQ7GT Det.-AVC-AF, 50L6GT Power Output, 35Z5GT Rectifier
POWER SUPPLY	117 Volts AC-DC Rating .250 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	530KC to 1640KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.01MFD.	High side to signal grid of 12SA7. Low side to B-.	455KC	Any quiet point.	Across voice coil	A1, A2, A3, A4.	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between generator ground lead and receiver B-. Also decrease dummy ant. to .001 MFD. to prevent excessive hum modulation.
	Loop	1500KC	1500KC	"	A5	Adjust for maximum output. Connect output of signal generator to loop of few turns of wire and radiate signal into receiver loop by spacing of at least 1 foot.
	"	"	"	"	A6	" " Rock gang while adjusting.
	Set dial pointer dial pointer so that its left hand edge the last mark at	by placing the tuning gang condensers in full mesh and adjust is in line with the the low frequency end of the dial scale.				right hand edge of

Volume control at maximum volume and output from signal generator no higher than necessary to give output reading. Use insulated alignment screwdriver for adjusting. Be sure to have loop ant. in same position as it will be when in cabinet.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		MAJESTIC PART No.	STANDARD REPLACEMENT		
1	Converter	12SA7GT	12SA7GT	8AD	
2	IF Amp.	12SK7GT	12SK7GT	8N	
3	Det.-AVC-AF	12SQ7GT	12SQ7GT	8Q	
4	Power Output	50L6GT	50L6GT	7AC	
5	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	MAJECTIC PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	
6(A)	40	150	19-24	2N514	DHN-2x50-150	TA-240	PRS150-40-40	BRD4215	Filter - Red
(B)	20	150							Filter - Blue
7	.04	400	5-58	TP425	S-4-04	TC-14	484-.04	DT4S4	50L6 Plate Bypass
8	.01	200	6-112	TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
9	.002	200	5-52	TP405	S-6-002	TC-22	484-.002	DT6D2	" "
10	.05	200	5-40	TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
11	.05	200	5-40	TP426	S-4-05	TC-15	484-.05	DT4S5	Line Isolating
12	.01	200	6-112	TP421	S-4-01	TC-11	484-.01	DT4S1	Ant. Coupling
13	.05	200	5-40	TP426	S-4-05	TC-15	484-.05	DT4S5	Line Filter
14	.05	200	5-40	TP426	S-4-05	TC-15	484-.05	DT4S5	Series Osc. Cond.
15	220	500	6-151	MC240	MO.5-325	1FM-325	1468-.00025	SW5T25	Audio Plate Bypass
16	220	500	6-151	MC240	MO.5-325	1FM-325	1468-.00025	SW5T25	RF Bypass (Diode)

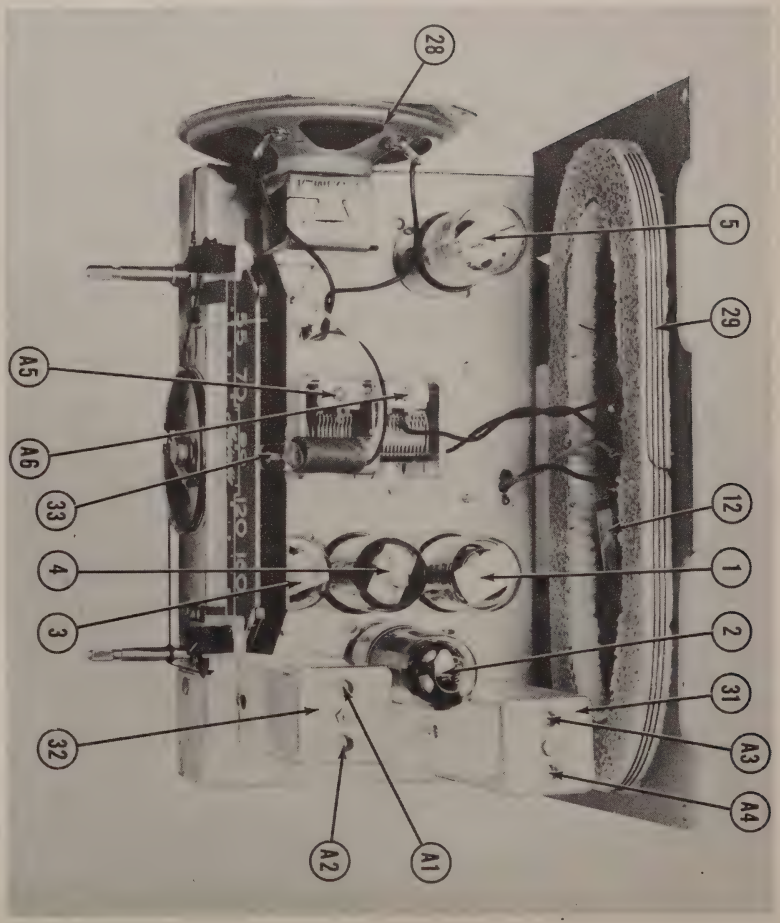
CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	MAJESTIC PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	
17(A)	500KΩ	1	13-14	MK401	D13-133	AM-60-Z	
(B)	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 17A per instructions.
(C)	Switch		" "	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	MAJESTIC PART No.	IRC PART No.	
18	22KΩ	1/3	9-184	BTS-22K	Red-Red-Or. Osc. Grid
19	220KΩ	1/3	9-132	BTS-220K	Red-Red-Yl. Line Isolating
20	3.3 Meg.	1/3	9-206	BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
21	22KΩ	1/3	9-184	BTS-22K	Red-Red-Or. Diode Load
22	10 Meg.	1/3	9-160	BTS-10 Meg.	Br.-Blk.-Blue 1st AF Grid
23	330KΩ	1/2	9-89	BTS-330K	Or.-Or.-Yl. 1st AF Plate Load
24	470KΩ	1/3	9-207	BTS-470K	Yl.-Vi.-Yl. Output Grid
25	150Ω	1	9-251	BW-1-150	Br.-Grn.-Br. Output Cathode
26	1200Ω	1	9-216	BW-1-1200	Br.-Red-Red Filter

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING IMPEDANCE PRI.	RATING IMPEDANCE SEC.	RATING DC RES. PRI.	RATING DC RES. SEC.	REPLACEMENT DATA MAJESTIC PART No.	REPLACEMENT DATA STANCOR PART No.	REPLACEMENT DATA THORDAR'N PART No.	REPLACEMENT DATA UTAH PART No.	INSTALLATION NOTES
27	2800Ω	3.75Ω	174Ω tapped @ 9Ω	.9Ω	12-20	A-3876‡	T-13342*‡	8775‡	*Requires one new mounting hole. ‡When using this replacement, disregard the tap on the primary of the original transformer.

SPEAKER

ITEM No.	RATINGS FIELD	RATINGS VC IMP.	REPLACEMENT DATA MAJESTIC PART No.	REPLACEMENT DATA JENSEN PART No.	REPLACEMENT DATA UTAH PART No.	INSTALLATION NOTES
28	PM	3.75Ω	22-12	ST-113†	4PY†	†Fabricate mounting bracket so replacement speaker is in same position as the original.
	CONE DIA. 4"	VC DIA. 2"	NOT READILY	REPLACEABLE-USE COMPLETE SPEAKER UNIT.		

R F COILS

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA MAJESTIC PART No.	REPLACEMENT DATA MEISSNER PART No.	INSTALLATION NOTES
29	Loop Ant.	0Ω	1Ω	20-17		Used in Model 5A430 (Ch. 4504)
29	Loop Ant.	0Ω	1Ω	20-7		Used in Model 5A410 (Ch. 4501)
30	Osc.	6.3Ω		3-158	14-1040	Install 50 MMF capacitor from high end of coil to oscillator grid.
31	Input IF	13Ω	12Ω	3-116	16-6658	
32	Output IF	12Ω	11.5Ω	3-117	16-6660	

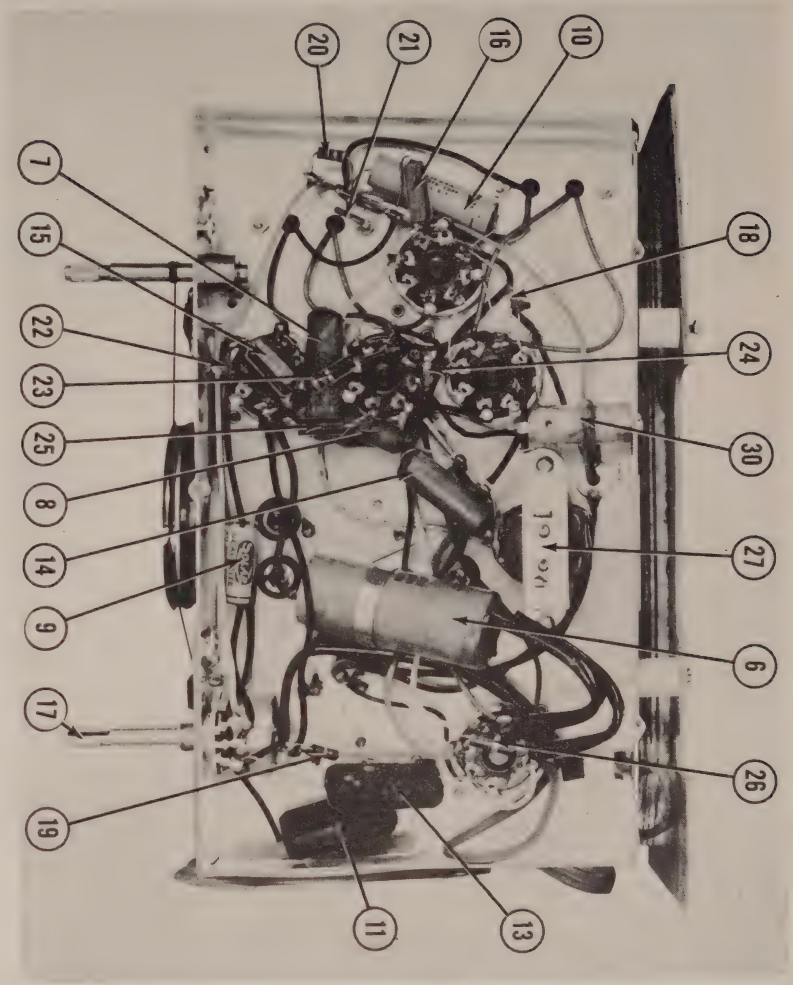
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA MAJESTIC PART No.	REPLACEMENT DATA	INSTALLATION NOTES
33	Bayonet	6-8	.15	Brown	None		47

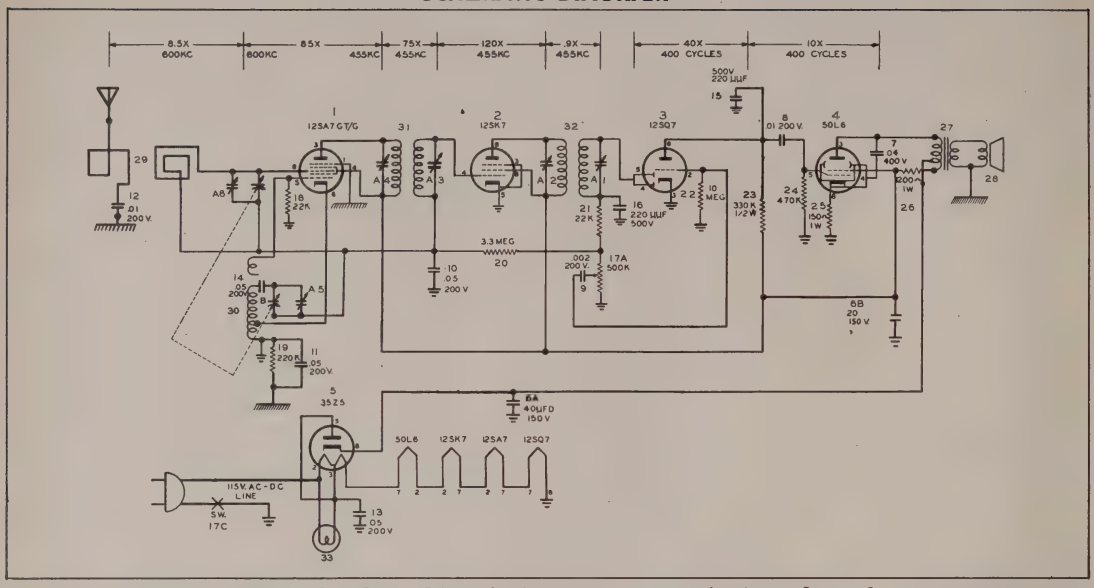
MISCELLANEOUS

ITEM No.	PART NAME	MAJESTIC PART No.	NOTES
A5	Tuning Cap.	7-18	2 Gang Variable Capacitor
A6	Trimmer	Part of 7-16	Oscillator Trimmer
	"	" " "	Antenna Trimmer
	Dial Glass	117-30	5A410, 5A430
	Dial Pointer	135-5	" "
	Knobs	128-23	5A410 Walnut
	"	128-25	5A410 Black
	"	128-32	5A430

CHASSIS—BOTTOM VIEW



SCHEMATIC DIAGRAM



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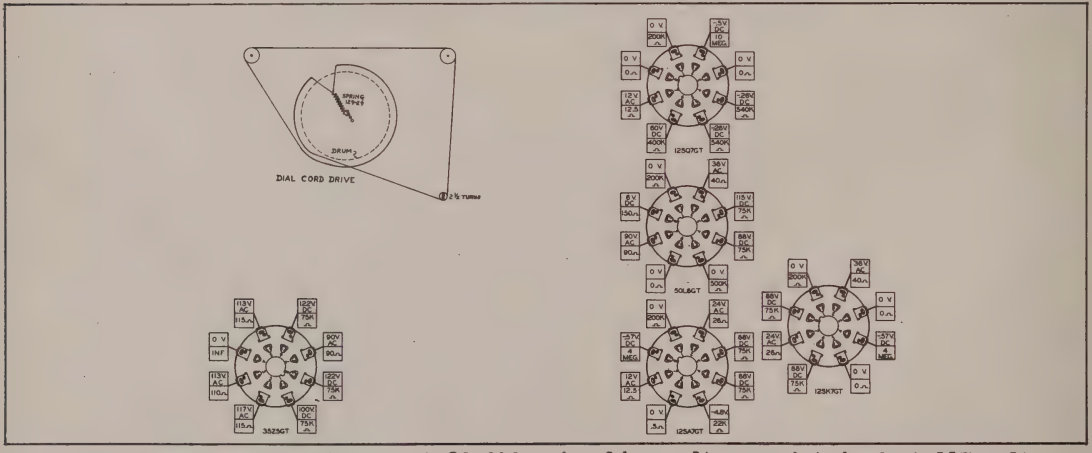
VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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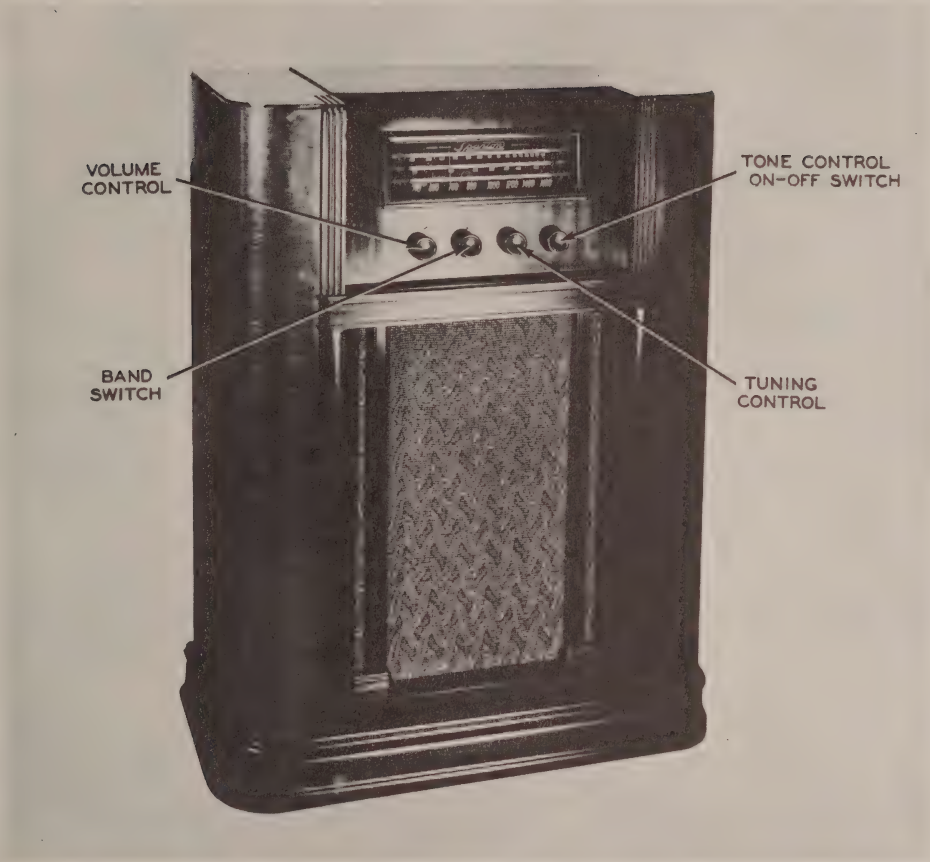
SPARTON
MODEL 7AM46 (CHASSIS 7-46)
MODEL 8AM46 (CHASSIS 8-46)



SPARTON
MODEL 7AM46 (CHASSIS 7-46)
MODEL 8AM46 (CHASSIS 8-46)

SPARTON MODEL 7AM46

TRADE NAME	Sparton, Models 7AM46 (Ch. 7-46), 8AM46 (Ch. 8-46)
MANUFACTURER	The Sparks-Withington Co., Radio & Appliance Div. - Jackson, Michigan
TYPE SET	AC Superheterodyne, Build-In Rotatable Loop Antenna
TUBES (SEVEN)	Chassis 7-46 Types 7A7 RF Amp., 7Q7 Osc.-Converter, 7A7 IF Amp., 7B6 2nd Det.-AVC-AF, 2 - 6F6 Power Output, 5Y3GT/G Rectifier. Chassis 8-46 has 6U5/6G5 Visiglo in addition to those types listed for Chassis 7-46.
POWER SUPPLY	117 Volts AC Rating .740 Amp. @ 117 Volts AC
TUNING RANGE	Broadcast 540-1630KC Police (1) 1.58 - 5.6MC Short Wave (2) 5.5 - 19MC

Removal of Chassis, Speaker, and Loop for Service Operations.

1 - Remove volume, band switch, tuning, and tone control knobs.

2 - Disconnect the three leads going to the loop at the lugs on the loop.

3 - Remove speaker plug from chassis.

4 - Disconnect cabinet antenna lead from antenna post on chassis.

5 - Remove chassis mounting bolts and chassis.

6 - Remove 4 hex nuts from speaker mounting bolts and speaker.

7 - To remove loop antenna, take out cotter pin in the top wooden mounting swivel.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: SPARTON PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	7A7	7A7	8V	
2	Converter	7Q7	7Q7	8AL	
3	IF Amp.	7A7	7A7	8V	
4	Det.-AVC-1AF	7B6	7B6	8W	
5	Power Output	6F6	6F6	7S	
6	Power Output	6F6	6F6	7S	
7	Rectifier	5Y3GT/G	5Y3GT/G	5T	
	Tuning Eye	6U5/6G5	6U5/6G5	6R	

CAPACITORS

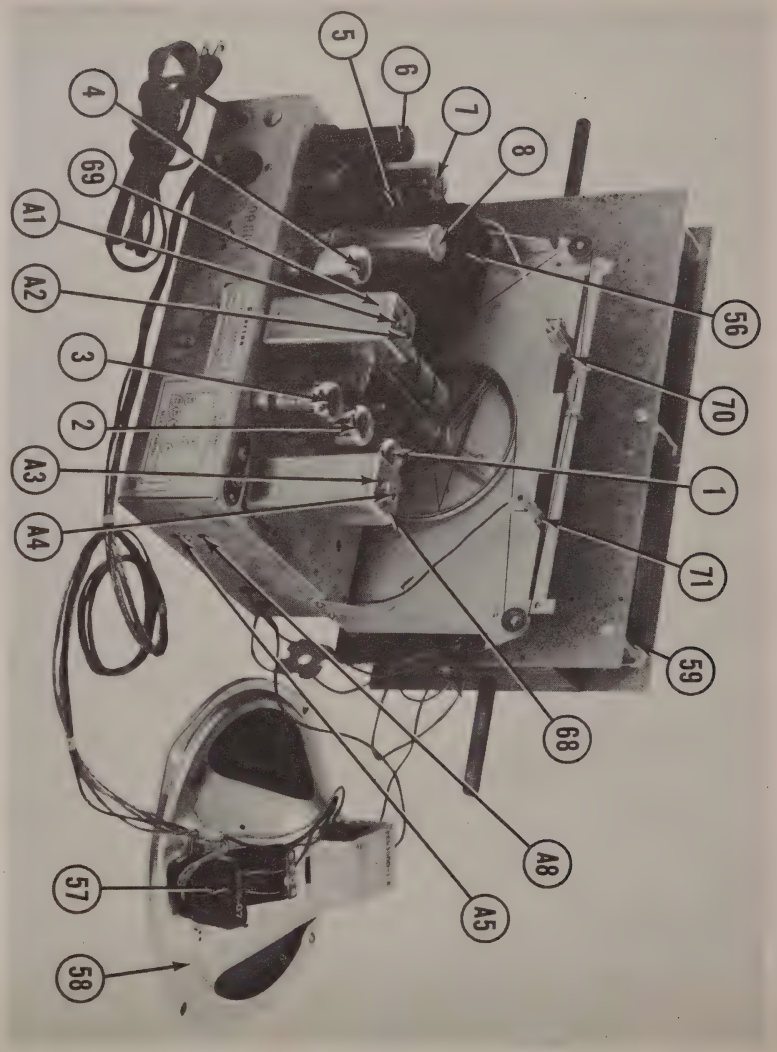
Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: SPARTON PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
8(A)	15	450	PA4300-1	FF390		EL-344	AF222J	UP6CJ47	■ Filter
(B)	10	450							"
(C)	15	450							▲ "
9	4	400	PA4303-1	TC70	M-4-450	UT-4	PRS450-4	bR445	Screen Bypass
10	.002	600	PC40CM-202	TP405	S-6-002	TC-22	684-.002	DT6D2	6F6 Plate Bypass
11	.02	600	PC40CM-203	TP412	S-6-02	TC-12	684-.02	DT6S2	Tone Control
12	.05	400	PC40GL-503	TP426	S-4-05	TC-15	484-.05	DT4S5	Audio Coupling
13	.05	400	PC40GL-503	TP426	S-4-05	TC-15	484-.05	DT4S5	" "
14	.05	200	PC40HK-503	TP426	S-4-05	TC-15	484-.05	DT4S5	" "
15	.05	200	PC40HK-503	TP426	S-4-05	TC-15	484-.05	DT4S5	1F Cath. Bypass
16	.05	200	PC40HK-503	TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
17	.05	400	PC40HL-503	TP426	S-4-05	TC-15	484-.05	DT4S5	RF Bypass Pwr. Supp.
18	.05	200	PC40HK-503	TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
19	.05	200	PC40HK-503	TP426	S-4-05	TC-15	484-.05	DT4S5	RF Cath. Bypass
20	.05	400	PC40HL-503	TP426	S-4-05	TC-15	484-.05	DT4S5	RF Screen Bypass
21	100	500	MC60F-101	MC235	M0.5-31	1FM-31	1468-.0001	5W5T1	Audio Plate Bypass
22	100	500	MC60F-101	MC235	M0.5-31	1FM-31	1468-.0001	5W5T1	RF Filter
23	100	500	MC60F-101	MC235	M0.5-31	1FM-31	1468-.0001	5W5T1	" "
24	100	500	MC60F-101	MC235	M0.5-31	1FM-31	1468-.0001	5W5T1	RF Bypass Vol. Cont.
25	51	500	MC60F-510	MC225	M0.5-45	1FM-45	1468-.00005	5W5Q5	Osc. Grid Cond.
26	220	500	MC60G-241	MC240	M0.5-325	1FM-325	1468-.00025	5W5T25	Fixed Pad
27	1680		PA4354-2						" "
28	3320		PA4354-1						" "
29	5	500	MC60G-050	MC205	M0.5-55	MS-55	1468-.000005	5W5V5	RF Coupling
30	220	500	MC60G-241	MC240	M0.5-325	1FM-325	1468-.00025	5W5T25	RF Coupling

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: SPARTON PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
31(A)	2 Meg.	1	PA4401-2	MK403	D13-139	AM-66-Z	Volume Control
(B)	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 31A per instructions.
32(A)	250Kφ	1	PA4404-1	MK400	D13-130	AM-64-Z	Tone Control
(B)	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 32A per instructions
(C)	Switch		" "	M26	41	SW-A	" " " " "

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

RESISTORS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA SPARTON PART No.	REPLACEMENT DATA IRC PART No.	IDENTIFICATION CODES
33	1 Meg.	½	BR12S-105	BTS-1 Meg.	Br.-Blk.-Grn. RF Grid
34	820Ω	½	BR12S-821	BTS-820	Gray-Red-Br. RF Cathode
35	330Ω	½	BR12S-331	BW-½-330	Or.-Or.-Br. Mixer Tuned Circuit
36	150Ω	½	BR12S-151	BW-½-150	Br.-Grn.-Br. " " "
37	20KΩ	½	BR12S-203	BTS-22K	Red-Blk.-Or. Osc. Grid
38	16KΩ	2	DR12G-163	BTS-15K	Br.-Blue-Or. Screen Dropping
39	22KΩ	1	CR12G-223	BW-1-22K	Red-Red-Or. Bleeder
40	560Ω	½	BR12S-561	BTS-560	Grn.-Blue-Br. IF Cathode
41	18KΩ	½	BR12S-183	BTS-18K	Br.-Gray-Or. Diode Filter
42	180KΩ	½	BR12S-184	BTS-180K	Br.-Gray-Yl. Diode Load
43	3.3 Meg.	½	BR12S-335	BTS-3.3 Meg.	Or.-Or.-Grn. AVC Network
44	3.3 Meg.	½	BR12S-335	BTS-3.3 Meg.	" " " " "
45	18KΩ	½	BR12S-183	BTS-18K	Br.-Gray-Or. RF Filter
46	270KΩ	½	BR12S-274	BTS-270K	Red-Vi.-Yl. Phono Compensation
47	270KΩ	½	BR12S-274	BTS-270K	" " " "
48	1000Ω	½	BR12S-102	BTS-1000	Br.-Blk.-Red Output Series Grid
49	470KΩ	½	BR12S-474	BTS-470K	Yl.-Vi.-Yl. Output Grid
50	2000Ω	½	BR12S-202	BTS-2200	Red-Blk.-Red Output Series Load
51	10 Meg.	½	BR12S-106	BTS-10 Meg.	Br.-Blk.-Blue 1st AF Grid
52	270KΩ	½	BR12S-274	BTS-270K	Red-Vi.-Yl. 1st AF Plate Load
53	470KΩ	½	BR12S-474	BTS-470K	Yl.-Vi.-Yl. Output Grid
54	240Ω	2	DR12G-241	BW-2-270	Red-Yl.-Br. Output Cathodes
55	1000Ω	2	DR12S-102	BW-2-1000	Br.-Blk.-Red Filter

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2	RATING SEC. 3	REPLACEMENT DATA SPARTON PART No.	REPLACEMENT DATA STANCOR PART No.	REPLACEMENT DATA THORDARSON PART No.	REPLACEMENT DATA UTAH PART No.
56	117 V. @.725A	630V-CT @.087A	4.9V. @ 1.8A	5.9V. @ 2.88A	AB44000-1	P-6012†	T-13R13†	X-6901†
	†Drill new mounting holes							

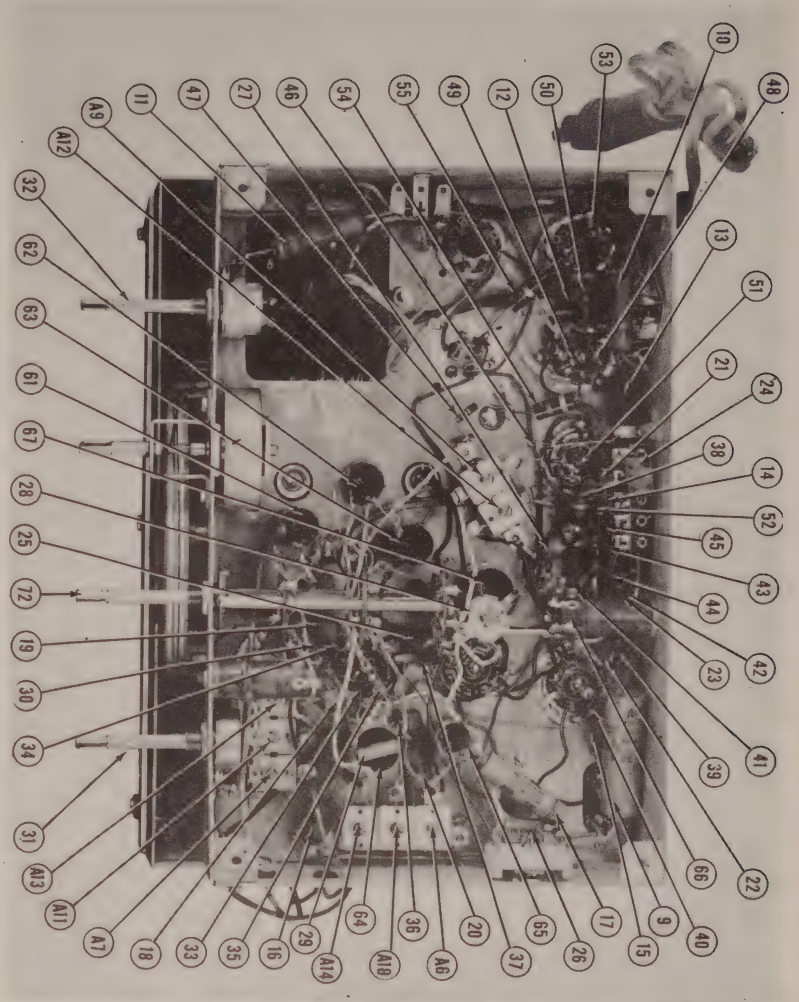
TRANSFORMER (OUTPUT)

ITEM No.	RATING IMPEDANCE PRI.	RATING IMPEDANCE SEC.	RATING DC RES. PRI.	RATING DC RES. SEC.	REPLACEMENT DATA SPARTON PART No.	REPLACEMENT DATA STANCOR PART No.	REPLACEMENT DATA THORDAR'N PART No.	REPLACEMENT DATA UTAH PART No.	INSTALLATION NOTES
57	11000Ω	3.3Ω	66Ω	.42Ω	Part of PC63000-1M	A-3850	T-13S40	3775	

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA SPARTON PART No.	REPLACEMENT DATA JENSEN PART No.	REPLACEMENT DATA UTAH PART No.	INSTALLATION NOTES
58	FIELD RES; 700Ω	VC IMP. 3.3Ω	PC63000-1M	ST-441*†	Q1010*	*Parallel field coil with 1500Ω 5W resistor. †Replace output transformer to match 6Ω voice coil.
	CONE DIA. 9-3/8"	VC DIA. 3/4"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

CHASSIS—BOTTOM VIEW



ALIGNMENT INSTRUCTIONS							
DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD.	High side to pin #6 of 7Q7. Low side to chassis.	456KC	BC	1600KC	Across voice coil	A1,A2 A3,A4.	Adjust for maximum output.
200 MMFD	High side to ant. post. Low side to chassis.	1600KC	"	"	"	A5	" " " "
"	"	1400KC	"	1400KC	"	A6,A7	" " " "
"	"	600KC	"	600KC	"	A8	Rock dial and adjust for maximum output. Recheck adjustments as given for A5, A6 and A7.
400Ω res.	"	5MC	Pol.	5MC	"	A9	Adjust for maximum output.
"	"	"	"	"	"	A10,A11	" " " "
"	"	15MC	SW	15MC	"	A12	" " " "
"	"	"	"	"	"	A13,A14	" " " "

Volume control at maximum volume and adjust output from signal generator just high enough to provide output reading. Use insulated alignment screwdriver for adjusting. Loop connected and in same position as when in cabinet.

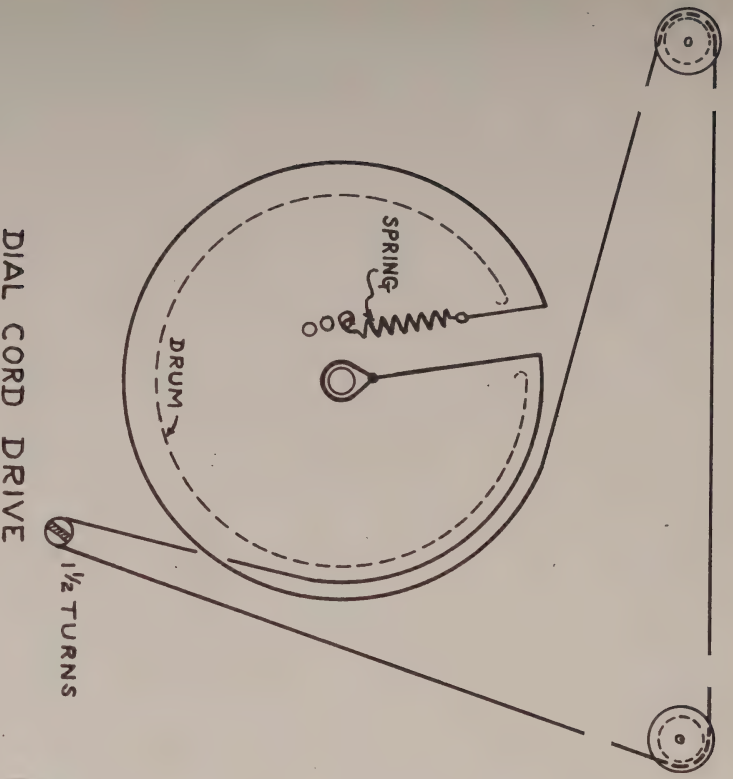
PARTS LIST AND DESCRIPTIONS

R F COILS

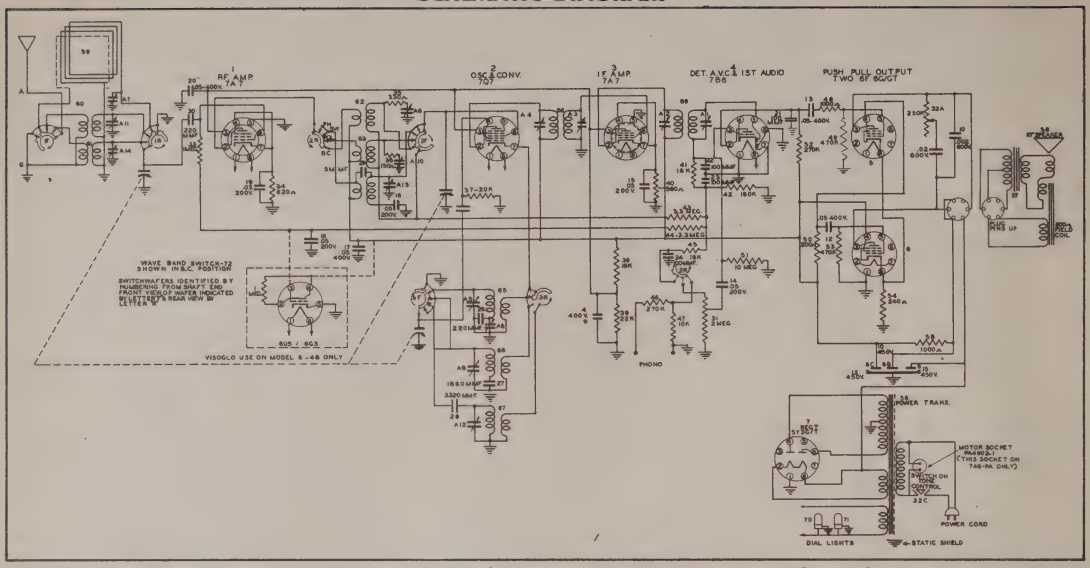
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA SPARTON PART No.	REPLACEMENT DATA MEISSNER PART No.	INSTALLATION NOTES
59	Loop Ant.	.2Ω	1Ω	AB43011-1		
60	Pol. Ant.	4Ω	1Ω	AA6754-1	14-1041	
61	SW Ant.	.5Ω	0Ω	AA6758-1	14-1044	
62	BC Det.	2Ω	3.5Ω	AA6756-1		
63	Pol. Det.	2.5Ω	.5Ω	AA6757-1	14-1042	
64	SW Det.	5Ω	0Ω	AA6760-1	14-1045	
65	BC Osc.	1Ω	6Ω	AA6759-1	14-1040	
66	Pol. Osc..	.1Ω	1Ω	AA6755-1	14-1043	
67	SW Osc.	.3Ω	0Ω	AA6753-2	14-1046	
68	Input IF	11Ω	11Ω	AA6800-5	16-6658	
69	Output IF	6Ω	6Ω	AA6800-6	16-6660	

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA SPARTON PART No.		INSTALLATION NOTES
70	Bayonet	6-8	0.25	Blue	PA4100-3		Type 44
71	"	"	"	"	"		"

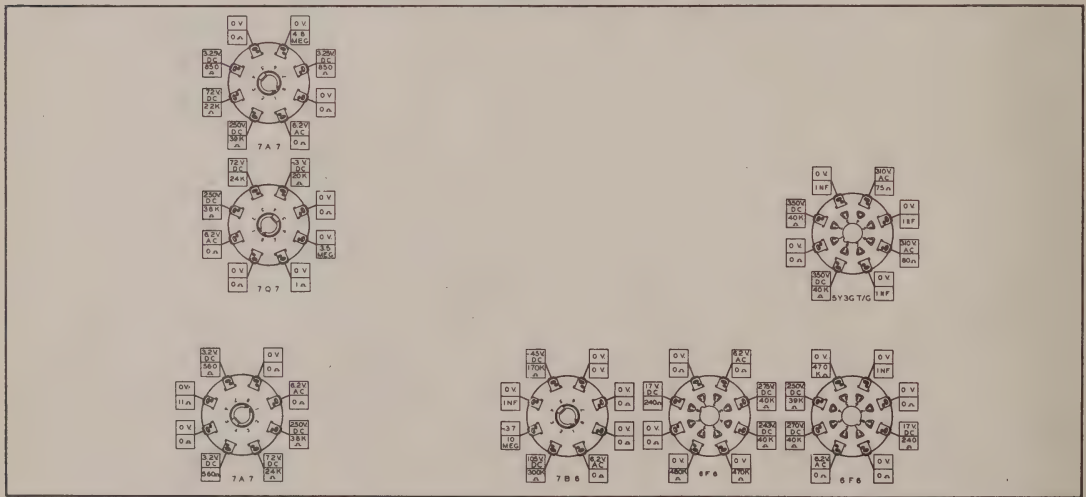


SCHEMATIC DIAGRAM


1 RF AMP 7A7
2 OSC & CONV. 7Q7
3 IF AMP 7A7
DET. AVC 1ST AUDIO 7B6
PUSH PULL OUTPUT TWO 6F6GT
WAVE BAND SWITCH-72 SHOWN IN B.C. POSITION
SWITCHWAFERS IDENTIFIED BY NUMBERING FROM SHAFT END. FRONT VIEW OF WAFER INDICATED BY LETTERS NEAR VIEW B. LETTER 'B'
VISOGLO USE ON MODEL 8-46 ONLY
PHONO
POWER TRANS.
MOTOR SOCKET
DIAL LIGHTS
STATIC SHIELD
POWER CORD

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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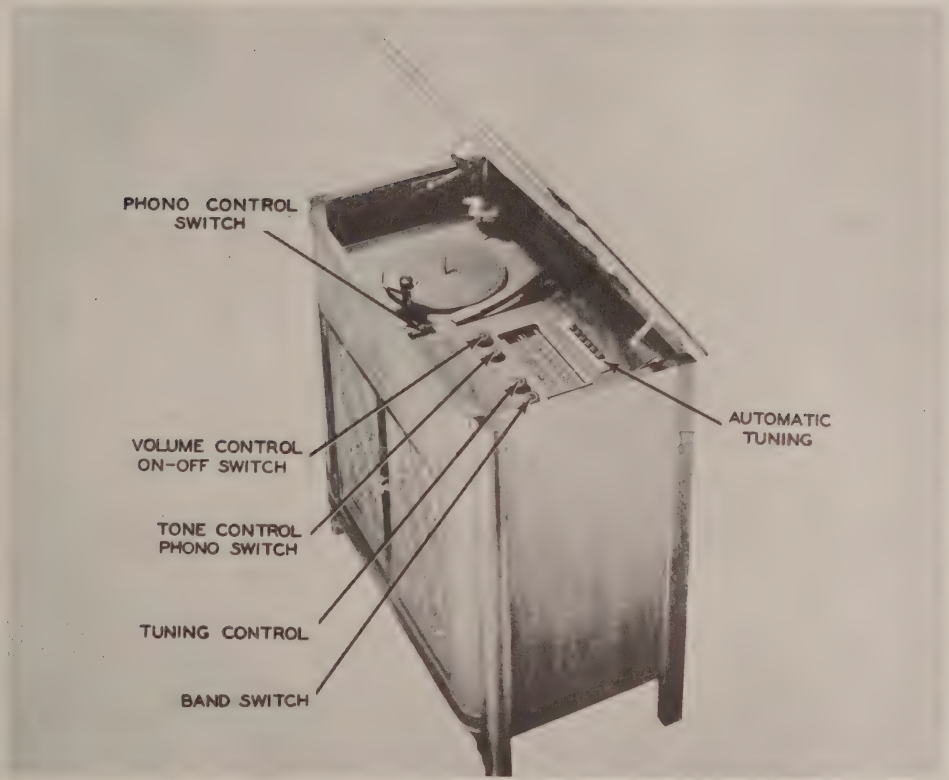
RCA VICTOR
MODELS 58 AV, 58 V
(CHASSIS RC-604)



RCA VICTOR
MODELS 58 AV, 58 V
(CHASSIS RC-604)

RCA VICTOR 58AV

TRADE NAME	RCA Victor, Models 58AV, 58V (Chassis RC-604)
MANUFACTURER	Radio Corp. of America RCA Victor Division - Camden, New Jersey
TYPE SET	AC Operated Combination Radio & Automatic Phonograph. Superheterodyne Radio with Self-Contained Loop Antenna and Automatic Tuning. Automatic Changer Model 960001-1 with Record Capacity of Fourteen 10 Inch or Twelve 12 Inch Types. Cabinet has Record Storage Compartment.
TUBES (EIGHT)	Types 6SG7 RF Amplifier, 6SA7 1st Det.-Oscillator, 6SK7 IF Amplifier, 6SQ7 2nd Det-AVC-AF Amplifier, 6SQ7 Phase Inverter, 2 - 6K6GT/G Push-Pull Power Output, 5Y3GT/G Rectifier.
POWER SUPPLY	105-125 Volts AC Rating - Radio Section only .720 Amp. @ 117 Volts AC Phono Motor Consumption Approx. 30 Watts.
TUNING RANGE	Broadcast ("A") 540 to 1600KC Short Wave ("C") 9.4 to 15.4MC
PHONOGRAPH	For Information on Automatic Changer Service, refer to RCA Victor Service Data for Model 960001-1.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: RCA PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	6SG7	6SG7	8BK	
2	1st Det.-Osc.	6SA7	6SA7	8R	
3	IF Amp.	6SK7	6SK7	8N	
4	2ndDet.-AVC-AF	6SQ7	6SQ7	8Q	
5	Phase Inverter	6SQ7	6SQ7	8Q	
6	Power Output	6K6GT/G	6K6GT/G	7S	
7	Power Output	6K6GT/G	6K6GT/G	7S	
8	Rectifier	5Y3GT/G	5Y3GT/G	5T	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: RCA PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
9(A)	15	450	37888	FP339			EL-350	AF44J4A	UP6CJ12	■ Filter 86031-8
(B)	15	450								▲ "
(C)	40	25								
10	16	450	37877	TC74	M-16-450	UT-16	PRS450-16	BR1645		6SA7 Screen Bypass
11	.005	1000	70648	TP459	S-16-005	TR-25	1084-.005	MD16D5		Pwr. Amp. Plate
12	.01	600	70631	TP410	S-6-01	TC-11	684-.01	DT6S1		Audio Coupling
13	.01	600	70631	TP410	S-6-01	TC-11	684-.01	DT6S1		" "
14	.005	600	70627	TP408	S-6-005	TC-25	684-.005	DT6D5		" "
15	.25	200	70618	TP430	S-4-25	TC-2	484-.25	DT4P25		Bias Filter
16	.0025	600	70623	TP406	S-6-003	TC-23	684-.003	DT6D3		Tone Control
17	.005	600	70627	TP408	S-6-005	TC-25	684-.005	DT6D5		Audio Coupling
18	.015	400	70572	TP400	S-4-02	TC-12	484-.015	DT4S15		Tone Compensation
19	.01	600	70631	TP410	S-6-01	TC-11	684-.01	DT4S1		" "
20	.05	400	70615	TP426	S-4-05	TC-15	484-.05	DT4S5		" "
21	.05	600	70636	TP415	S-6-05	TC-15	684-.05	DT6S5		6SK7 Plate Bypass
22	.005	1000	70648	TP459	S-16-005	TR-25	1084-.005	MD16D5		Pwr. Amp. Plate
23	.05	400	70615	TP426	S-4-05	TC-15	484-.05	DT4S5		AVC Filter
24	.01	600	70631	TP410	S-6-01	TC-11	684-.01	DT6S1		RF Plate Decoupling
25	.1	400	70617	TP428	S-4-1	TC-1	484-.1	DT4P1		6SG7 Screen Bypass
26	100	500	39628	MC235	MO.5-31	1FM-31	1468-.0001	5W5T1		6SQ7 Plate Bypass
27	180	500	39634	MC237	MO.5-32	1FM-315	1468-.00015	5W5T15		RF Filter
28	120	500	39630	MCB237	MOS.5-32	MS-32	1469-.00015	5R5T15		RF Coupling
29	100	500	39628	MC235	MO.5-31	1FM-31	1468-.001	5W5T1		" "
30	220	500	38858	MCB241	MOS.5-325	MS-33	1469-.00025	5R5T25		Fixed Pad
31	630	500	38831	MCB251	MWS.5-37	MS-37	1479-.0007	2R5T7		Osc. Feedback (PB)
32	2200	500	39660	MCB641	MWS.5-225	MS-23	1464-.0025	1R5D25		" " "
33	56	500	60954	MC225	MO.5-45	1FM-45	1468-.00005	5W5Q5		Osc. Grid Cond.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: RCA PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
34(A)	1.5Meg	1	70342	DTM221	D18-139XX	T-95	727880-119
(B)	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 34A per instructions.
(C)	Switch		" "	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: RCA PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
35	47KΩ	½	30787	BTS-47K	Yl.-Vi.-Or. RF Screen Dropping
36	10KΩ	½	36829		See Note #1
37	1500Ω	½	30654	BTS-1600	Br.-Grn.-Red RF Plate Load
38	1000Ω	½	34766	BTS-1000	Br.-Blk.-Red RF Decoupling
39	47KΩ	½	30787	BTS-47K	Yl.-Vi.-Or. Mixer Grid
40	2.2 Meg.	½	30649	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
41	33KΩ	½	30685	BTS-33K	Or.-Or.-Or. Osc. Grid
42	12KΩ	4	70541	AB-12K	Br.-Red-Or. Filter
43	2.2 Meg.	½	30649	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
44	1000Ω	½	34766	BTS-1000	Br.-Blk.-Red IF Plate Filter
45	270KΩ	½	30651	BTS-270K	Red-Vi.-Yl. Diode Load
46	470KΩ	½	30648	BTS-470K	Yl.-Vi.-Yl. 1st AF Series Load
47	270KΩ	½	30651	BTS-270K	Red-Vi.-Yl. 1st AF Plate Load

RESISTORS (Cont.)

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
48	27KΩ	½	30409	BTS-27K	Red-Vi.-Or. Tone Compensation
49	27KΩ	½	30409	BTS-27K	Red-Vi.-Or. " " "
50	270KΩ	½	30651	BTS-270K	Red-Vi.-Yl. Ph. Inv. Plate Load
51	39KΩ	½	30147	BTS-39K	Or.-Wh.-Or. Ph. Inv. Volt. Div.
52	2.2 Meg.	½	30649	BTS-2.2 Meg.	Red-Red-Grn. Inv. Volt. Div.
53	560KΩ	½	30653	BTS-560K	Grn.-Blue-Yl. AF & Inv. Grid Filter
54	270Ω	4	70542		Red-Vi.-Br. Volt. Div. & Bias
55	15Ω	½	11565	BW-½-15	Br.-Grn.-Blk. " " " "
56	390KΩ	½	11988	BTS-390K	Or.-Wh.-Yl. Output Grid
57	390KΩ	½	11988	BTS-390K	" " " " " "
58	270KΩ	½	30651	BTS-270K	Red-Vi.-Yl. Pickup Load

Note #1 - Peaking coil shunted by 10KΩ resistor

TRANSFORMER (POWER)

ITEM No.	RATING: PRI.	RATING: SEC. 1	RATING: SEC. 2	RATING: SEC. 3	REPLACEMENT DATA: RCA PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: THORDARSON PART No.	REPLACEMENT DATA: UTAH PART No.
59	117V @ .72 Amp	700V.(CT) @ .084Amp	5V. @ 1.86 Amp	6.5V @ 3.3 Amp	31380*	P4079‡	T13R13‡	X690‡

*Original Part No. 94156-502
‡Drill new mounting holes.

TRANSFORMER (OUTPUT)

ITEM No.	RATING: IMPEDANCE PRI.	RATING: IMPEDANCE SEC.	RATING: DC RES. PRI.	RATING: DC RES. SEC.	REPLACEMENT DATA: RCA PART No.	REPLACEMENT DATA: STANCOR PART No.	REPLACEMENT DATA: THORDAR'N PART No.	REPLACEMENT DATA: UTAH PART No.	INSTALLATION NOTES
60	11d00Ω	2.2Ω	430Ω	.25Ω	37899*	A3856‡	T13S38‡	7334‡	*Original Part No. 55001 ‡Drill new mounting hole.

SPEAKER

ITEM No.	RATINGS: FIELD	RATINGS: VC IMP.	REPLACEMENT DATA: RCA PART No.	REPLACEMENT DATA: JENSEN PART No.	REPLACEMENT DATA: UTAH PART No.	INSTALLATION NOTES
61	1060Ω	2.2Ω	70573*	ST-470‡	Q1210**	*Original Part No. 92512-1. **Supplied with universal output transformer. ‡Has 6Ω voice coil. It is necessary to replace output transformer (Stancor Type A3853, Thordarson T13S48, Utah 7364)
	CONE DIA. 11-2/4"	VC DIA. 2"				

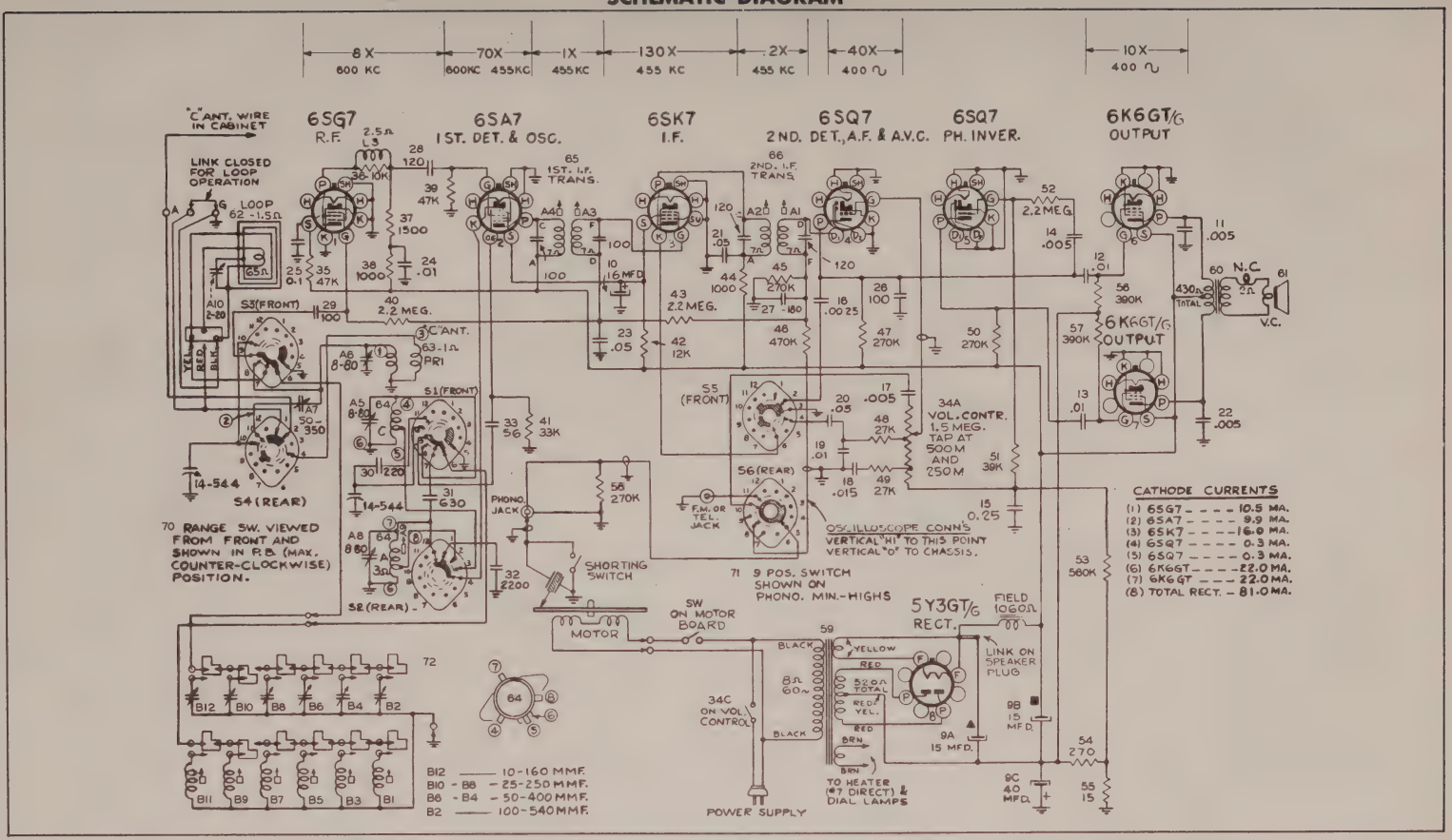
R F COILS

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: RCA PART No.	REPLACEMENT DATA: MEISSNER PART No.	INSTALLATION NOTES
62	Loop Ant.	1.5Ω	65Ω	70544		
63	S.W. Ant.	1Ω	0Ω	38788	14-1044	
64(A)	OC Osc.	0Ω	3Ω	38787		
64(B)	SW Osc.	0Ω	0Ω	38787		
65	Input IF	7Ω	7Ω	35636	16-5740	Original Part No. 91445-502
66	Output IF	7Ω	7Ω	35790	16-5742	Original Part No. 91445-501

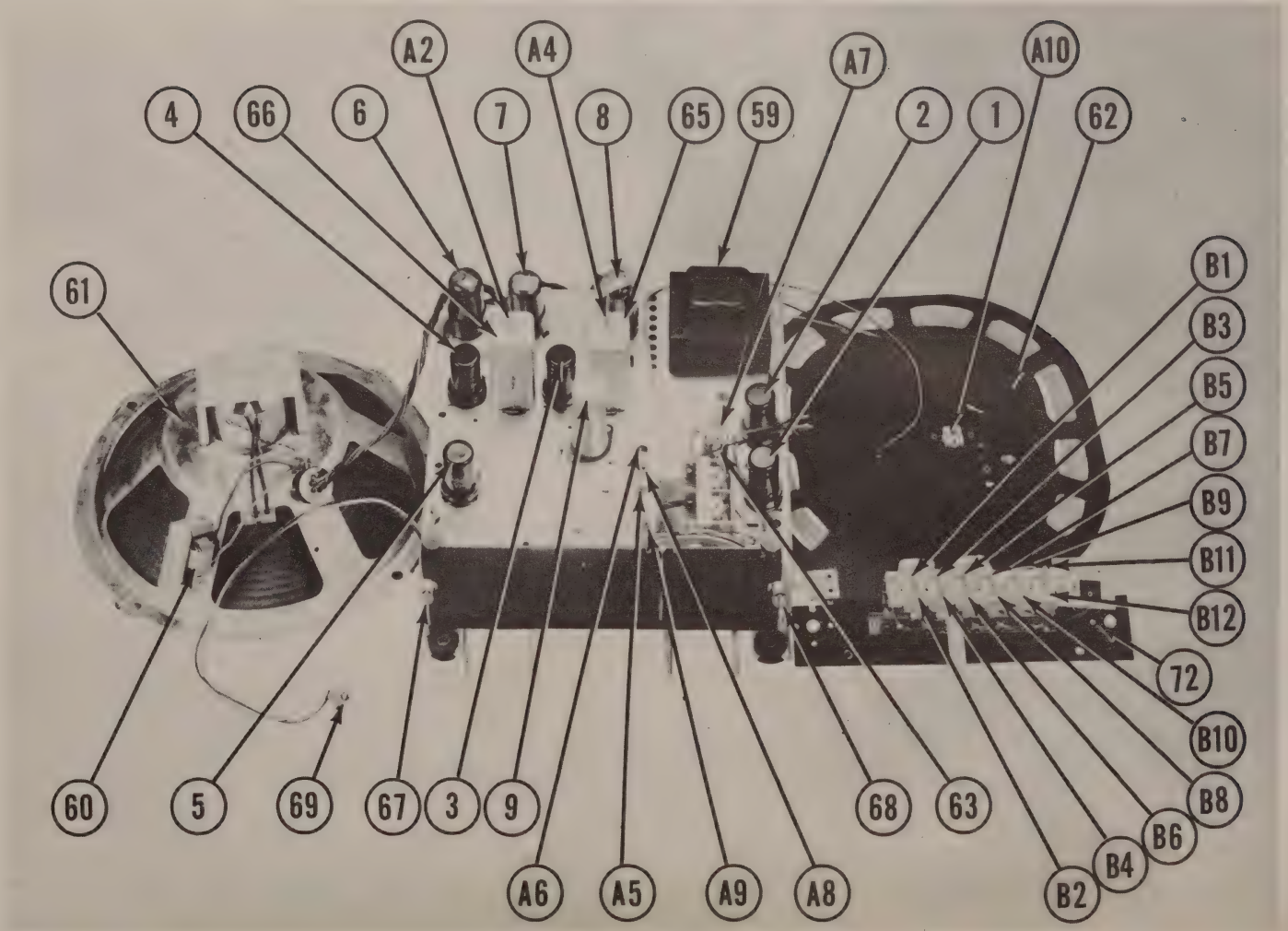
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA: RCA PART No.	REPLACEMENT DATA	INSTALLATION NOTES
67	Bayonet	6-8	0.2	White	11765	Type 5	Type 51
68	"	"	"	"	"		" "
69	"	"	0.4		5117		" 55 Compartment Lamp

SCHEMATIC DIAGRAM


8X 600 KC
70X 600KC 455KC
1X 455KC
130X 455 KC
2X 455 KC
40X 400 ~
10X 400 ~
"C" ANT. WIRE IN CABINET
LINK CLOSED FOR LOOP OPERATION
LOOP 62 - 1.5Ω
6SG7 R.F.
6SA7 1ST. DET. & OSC.
6SK7 I.F.
6SQ7 2ND. DET., A.F. & A.V.C.
6SQ7 PH. INVER.
6K6GT/G OUTPUT
1ST. I.F. TRANS.
2ND. I.F. TRANS.
S3 (FRONT)
S1 (FRONT)
S4 (REAR)
S2 (REAR)
S5 (FRONT)
S6 (REAR)
C ANT. 63-1Ω PRI
14-544
14-544
70 RANGE SW. VIEWED FROM FRONT AND SHOWN IN R.B. (MAX. COUNTER-CLOCKWISE) POSITION.
PHONO. JACK
SHORTING SWITCH
MOTOR
SW ON MOTOR BOARD
F.M. OR TEL. JACK
34A VOL. CONTR. 1.5 MEG. TAP AT 500M AND 250M
OSCILLOSCOPE CONN'S VERTICAL "HI" TO THIS POINT VERTICAL "G" TO CHASSIS.
71 9 POS. SWITCH SHOWN ON PHONO. MIN.-HIGHS
5Y3GT/G RECT.
FIELD 1060Ω
LINK ON SPEAKER PLUG
34C ON VOL. CONTROL
TO HEATER (#7 DIRECT) & DIAL LAMPS
POWER SUPPLY
N.C.
V.C.
CATHODE CURRENTS
(1) 6SG7 - - - - 10.5 MA.
(2) 6SA7 - - - - 9.9 MA.
(3) 6SK7 - - - - 16.0 MA.
(4) 6SQ7 - - - - 0.3 MA.
(5) 6SQ7 - - - - 0.3 MA.
(6) 6K6GT - - - - 22.0 MA.
(7) 6K6GT - - - - 22.0 MA.
(8) TOTAL RECT. - 81.0 MA.
B12 —— 10-160 MMF.
B10 - B8 - 25-250 MMF.
B6 - B4 - 50-400 MMF.
B2 —— 100-540 MMF.

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that is is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.


A2
A4
A7
A10
4
66
6
7
8
65
59
2
1
62
61
B1
B3
B5
B7
B9
B11
B12
72
B10
B8
B6
B4
B2
60
5
69
67
3
9
A6
A5
A9
A8
68
63

CHASSIS—BOTTOM VIEW

REMOVAL OF RADIO CHASSIS, SPEAKER AND LOOP ANTENNA FOR SERVICE OPERATIONS.

1-Remove volume control, tone control and phono switch, tuning control, and band switch knobs.

2-Remove phono pick-up plug from chassis.

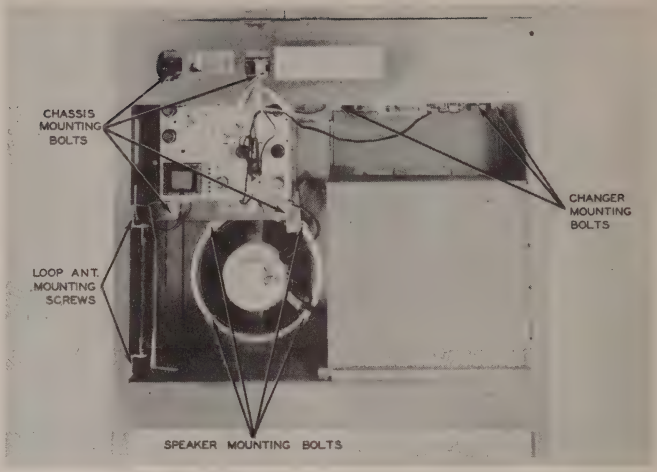
3-Remove channel mounting screw in phono compartment lamp and remove lamp.

4-Remove 3 leads from loop antenna receptacles.

5-Disconnect phono motor power plug.

6-Disconnect speaker cord plug from receptacle.

7-Disconnect automatic tuning assembly plug.



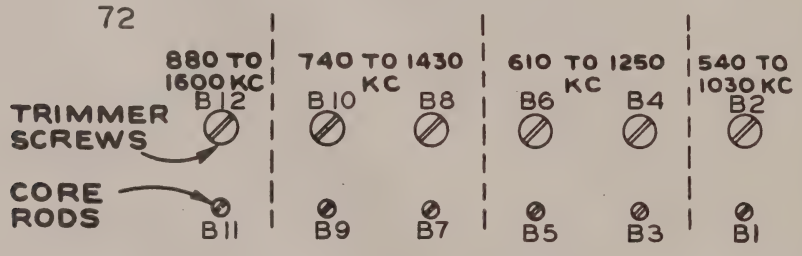
8-Remove cabinet antenna lead from antenna post.

9-Loosen the two top chassis mounting bolts.

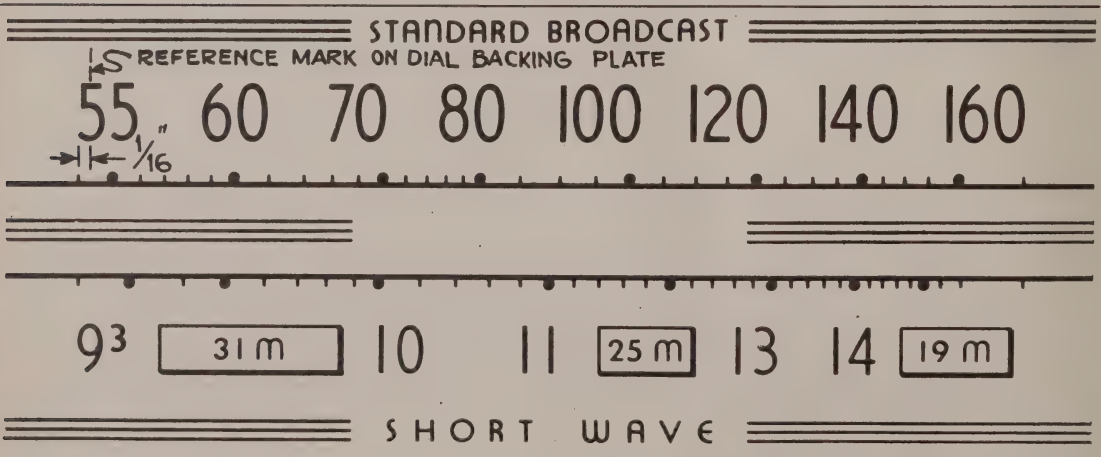
10-Remove two bottom chassis mounting bolts and chassis

11-Remove the four speaker mounting nuts and speaker.

12-Remove top and bottom cotter keys from loop assembly and take out loop.



AUTOMATIC TUNING ADJUSTMENT LAYOUT



In the event that chassis only is available for service (glass dial scale unavailable) the full size scale reproduced above may be used for reference during alignment.

PARTS LIST AND DESCRIPTIONS

MISCELLANEOUS

ITEM No.	PART NAME	RCA PART No.	NOTES
70	Range Switch	38805	
71	Switch, Tone	38802	Radio-Phono and Tone Switch
72	Switch, Sel.	38575	Automatic Tuning Selector
A5	Trimmer Cap.	38801	8-80 MMF Oscillator Trimmer-3 Section Unit
A6	" "	"	" " SW Ant. Trimmer (Part of 38801)
A7	" "	38368	50-350 MMF SW Antenna Padder
A8	" "		8-80 MMF BC Oscillator (Part of 38801)
A10	" "	38684	2-20 MMF BC Antenna Trimmer
	Tuning Cap.	38800	Two Gang Variable 14-544 MMF
B2	Aut. Tun. Cap.	36424	100-540 MMF 36424 Assembly Includes
B4	"		50-400 MMF (B2,B4,B6,B8,B10,B12)
B6	"		50-400 MMF
B8	"		25-250 MMF
B10	"		25-250 MMF
B12	"		10-160 MMF

MISCELLANEOUS (Cont.)

ITEM No.	PART NAME	PART No.	NOTES
B1	Aut.Tun.Induct.	37638	37638 Assembly Includes B1,B3,B5
B3	"	"	
B5	"	"	
B7	"	38315	38315 Assembly Includes B7,B9,B11
B9	"	"	
B11	"	"	
	Dial Scale	39011	Glass
	Dial Plate	36333	Dial back plate complete with pulleys
	Plug	30638	2 Contact Female for motor cable
	"	12493	5 " " " speaker "
	"	32641	3 Prong Male Plug for Sel.SW. cable
	Socket	33514	Phono Input
	Plug	31539	5 Prong Male Plug for speaker cable
	Button	38375	Aut. Tuning Push Button
	Knob	35814	Volume, Tone-Phono, Range Sw., Tuning

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.01 MFD	IF grid and chassis.	455KC	B.C.	540KC	Across voice coil	A1,A2	Adjust for peak output.
"	1st Det. grid and chassis.	"	"	"	"	A3,A4	" " " "
47 MMFD	A-Terminal and chassis.	15.2MC	S.W.	15.2MC	"	A5,A6	" " " " Use minimum capacity peak if two can be obtained. Oscillator tracks 455KC above signal on all bands. (Link closed)
"	"	9.5MC	"	9.5MC	"	A7	Use minimum capacity peak if two can be obtained. Oscillator tracks 455KC above signal on all bands. (Rock gang) Repeat A5 and A6
200MMFD	Yellow loop lead and chassis.	1500KC	B.C.	1500KC	"	A8	Adjust for peak output. (Link closed)
"	"	600KC	"	600KC	"	A9	Adjust for peak output. (Link closed) Repeat A8 and A9.
	Loop	1500KC	"	1500KC	"	A10	Have chassis in cabinet and radiate signal from loop of few turns. Rock in A9 at 600KC.
	Volume control at maximum and signal generator output as low as possible for all adjustments. Use insulated alignment screwdriver to adjust. To check dial pointer turn rotor to full mesh and dial pointer should be 1/16" to left of reference mark on dial backing plate. Glass dial may be removed from cabinet and temporarily attached to chassis for reference during alignment. Mount so that extreme left graduation coincides with pointer. Scope connections are shown on schematic diagram for cathode-ray alignment.						

PUSH BUTTON ADJUSTMENT

The push buttons connect to separate magnetite-core oscillator coils and separate ant. circuit trimmers which must be adjusted for the desired stations. Use an insulated alignment tool for adjusting. Allow about five minute warm up period.
Proceed as follows:

1. Make a list of the desired stations, arranged in order from low to high frequencies.
2. Turn the range switch to the broadcast position and manually tune in the first station on the list.
3. Turn range switch to push-button position and press in the left-hand button (facing front of receiver).
4. Adjust B1 (oscillator core) to receive the first station. To secure the best adjustment, rotate the antenna for least pickup, and adjust core for peak output.
5. Adjust B2 (ant. trimmer) for peak output on the first station.
6. Proceed in the same manner to adjust for the remaining stations.

On the 880 to 1600 kc push-button, the higher frequency stations may be received with B11 (osc. core) in or out (osc. freq. either 455KC below or 455KC above the station freq.). The adjustment with the core in its out position (osc. freq. 455KC above the station freq.) is the correct one.

NOTE: Clockwise adjustment of the cores and trimmers tunes the circuits to lower frequencies.

CRITICAL LEAD DRESS:

1 - Bus from "C" oscillator coil to range switch must be held to length and dressed close to coil.

2 - C30 (audio coupling capacitor to volume control) should be dressed close to front apron.

3 - A.C. cord and motor leads must be dressed away from phono and F.M. jack.

4 - Excess trans. leads to be dressed between trans. and rectifier socket.

5 - Keep R5, C16 bus (in grid circuit of 6SA7 tube) as short as possible.

6 - Dress C28 (in plate circuit of 1st A.F.) close to socket.

7 - Keep R21 (grid resistor) and C34 (coupling capacitor of output tube) close to socket.

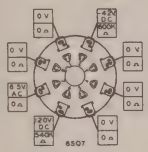
8 - Keep R25, C48 (in tone compensating circuit) close to front apron.

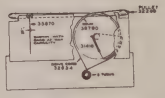
9 - Dress green lead from osc. coil to trimmer close to oscillator coil.

10- Dress red A.C. leads away from I.F. trans. and 6SQ7 socket.

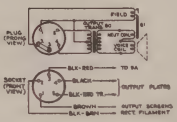
11- RF choke in plate of 6SG7 must be dressed toward back apron.

VOLTAGE AND RESISTANCE ANALYSIS CHART

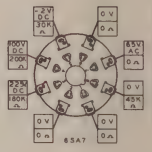


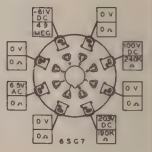


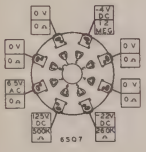
DIAL INDICATOR AND DRIVE MECHANISM

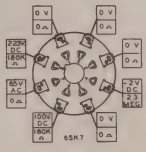


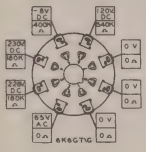
SPEAKER CONNECTIONS

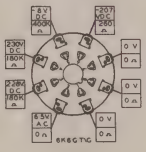


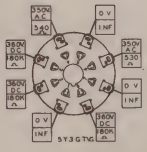












1 - DC Voltage measurements are 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

HOWARD W. SAMS & CO., INC.

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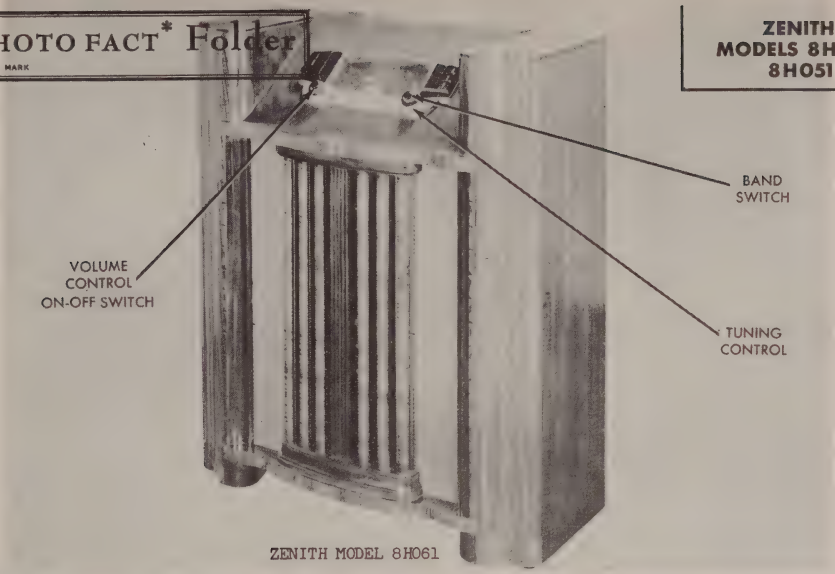


ZENITH MODEL 8H061

ZENITH (CHASSIS 8C20)
MODELS 8H032, 8H033, 8H050,
8H051, 8H052, 8H061

TRADE NAME	Zenith, Models 8H032, 8H033, 8H050, 8H051, 8H052, 8H061 (Chassis 8C20)
MANUFACTURER	Zenith Radio Corp. - Chicago, Illinois
TYPE SET	AM-FM AC Superhet. - Self Contained Rotatable Loop Antenna
TUBES (EIGHT)	Types 6AG5 RF Amp., 6SB7 Converter, 6SG7 1st IF Amp., 6SH7 2nd IF Amp., 6SH7 Limiter, 6S8GT Disc.-Det.-1AF, 6K6GT Power Output, 5Y3GT/G Rectifier
POWER SUPPLY	117 Volts AC Rating .645 Amp. @ 117 Volts
TUNING RANGE--BROADCAST	540-1620KC FM45 42-48.5MC FM100 88-108MC

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.05 MFD	High side to pin #8 of 6SB7 (converter). Low side to chassis.	455KC Modulated	BC	600KC	Across voice coil	A1,A2, A3,A4, A5,A6.	Adjust for maximum output
"	High side to pin #1 of 6AG5 (RF). Low side to chassis.	"	"	"	"	A7	Adjust for minimum output
	Loop (2 turns of wire loosely coupled to wave-magnet).	1600KC Modulated	"	1600KC	"	A8	Adjust for maximum output
	"	1400KC Modulated	"	1400KC	"	A9,A10	Adjust for maximum output
.05 MFD	High side to pin #4 (grid) on 6SH7 limiter. Low side to chassis.	8.3MC Unmodulated.	FM45		VTVM from pin #5 on disc. trans. to chassis	A11	Adjust for maximum reading
"	"	"	"		VTVM from pin #7 on	A12	Adjust for zero reading
"	High side to pin #4 (grid of 6SH7 interstage IF. Low side to chassis.	"	"		VTVM from pin #4 on 6SH7 (limiter) to chassis.	A13,A14	Adjust for maximum reading
"	High side to pin #4 (grid) on 6SG7 input IF. Low side to chassis.	"	"		"	A15,A16	Connect 300 ohm ½ watt carbon resistor across secondary of interstage IF transformer. Keep leads as short as possible and solder. Adjust for maximum reading.
"	High side to pin #8 (grid) on 6SB7. Low side to chassis.	"	"		" "	A17,A18	Adjust for maximum reading and remove resistor (300 ohm) before proceeding with next operation.
270Ω res.	High side to antenna post (removed line ant.) Low side to chassis	98MC Unmodulated	FM100	98MC	"	A19	Adjust for maximum reading
"	"	"	"	"	"	A20,A21	Adjust for maximum reading
"	"	45MC Unmodulated	FM45	45MC	"	A22	" " " "
"	"	"	"	"	"	A23,A24	Adjust for maximum reading

Volume control at maximum volume and output from signal generator just high enough to get indication on the meter. When aligning the FM use shielded leads from the VTVM (vacuum tube voltmeter) and connect a 200K resistor in series with the hot lead. Use insulated alignment tool (screwdriver end) for adjusting. After adjusting cores on FM tuning unit use drop of speaker cement to hold in place.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA ZENITH PART No.	REPLACEMENT DATA STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.	6AG5	6AG5	7BD	
2	Converter	6SB7	6SB7		
3	1st IF	6SG7	6SG7	8BK	
4	2nd IF	6SH7	6SH7	8BK	
5	Limiter	6SH7	6SH7	8BK	
6	Disc-Det.-AF	6S8GT	6S8GT		
7	Power Output	6K6GT/G	6K6GT/G	7S	
8	Rectifier	5Y3GT/G	5Y3GT/G	5T	

CAPACITORS

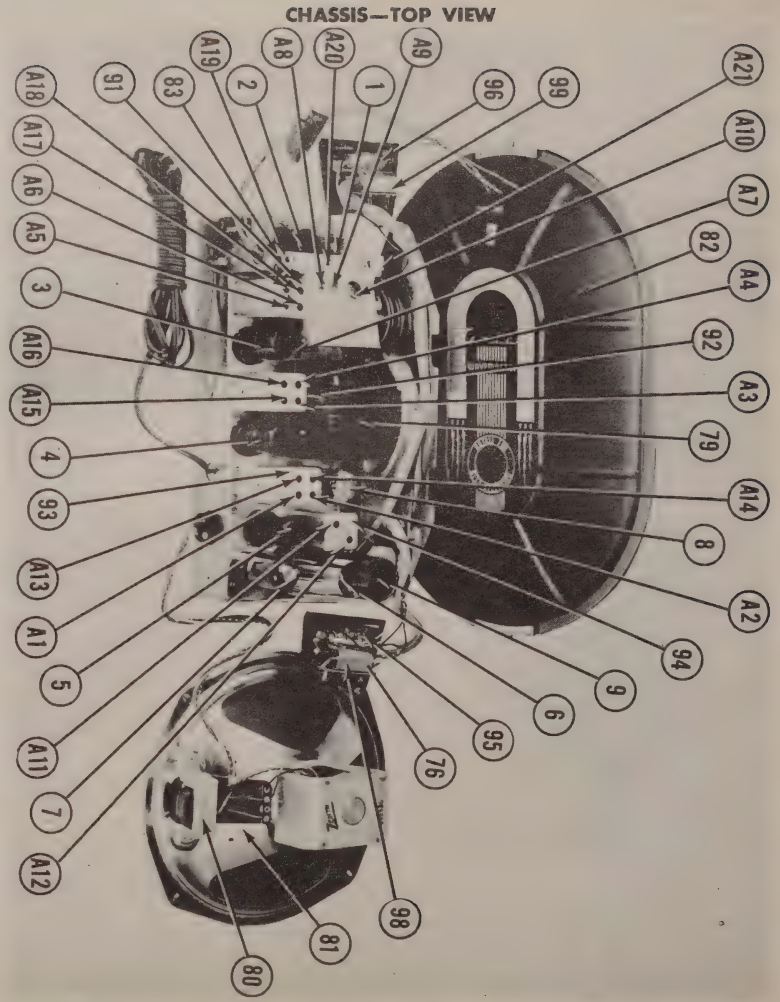
Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA ZENITH PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
9(A)	40	450	22-1382	FP346		EL-240		UP9C611T	♠ Filter
(B)	40	450							■ "
(C)	40	25				TA-50			▲ 6K6 Cath. Bypass
10	.005	400	22-1041	TP408	S-6-005	TC-25	484-.005	DT6D5	Line Bypass
11	.003	600	22-288	TP406	S-6-003	TC-23	684-.003	DT6D3	Tone Compensation
12	.003	600	22-288	TP406	S-6-003	TC-23	684-.003	DT6D3	" "
13	.005	600	22-1135	TP408	S-6-005	TC-25	684-.005	DT6D5	" "
14	.004	600	22-448	TP407	S-6-004	TC-24	684-.004	DT6D4	" "
15	.1	200	22-827	TP428	S-4-1	TC-1	484-.1	DT4P1	Audio Cath. Bypass
16	.02	400	22-188	TP423	S-4-02	TC-12	484-.02	DT4S2	RF Bypass Vol. Cont.
17	.02	600	22-830	TP412	S-6-02	TC-12	684-.02	DT6S2	Audio Coupling
18	.004	600	22-448	TP407	S-6-004	TC-24	684-.004	DT6D4	Pwr. Amp. Plate Bypass
19	.002	600	22-1445	TP405	S-6-002	TC-22	684-.002	DT6D2	Audio Coupling
20	.02	600	22-830	TP412	S-6-02	TC-12	684-.02	DT6S2	Limiter Plate Decoup.
21	.02	600	22-830	TP412	S-6-02	TC-12	684-.02	DT6S2	Limiter Screen Bypass
22	.01	600	22-196	TP410	S-6-01	TC-11	684-.01	DT6S1	2nd IF Plate Decoup.
23	.05	200	22-829	TP428	S-4-05	TC-15	484-.05	DT4S5	2nd IF Catnode Bypass
24	.001	600	22-1431	TP404	S-6-001	TC-21	684-.001	DT6D1	2nd IF Screen Bypass
25	.01	600	22-196	TP410	S-6-01	TC-11	684-.01	DT6S1	1st IF Plate Decoup.
26	.001	600	22-1431	TP404	S-6-001	TC-21	684-.001	DT6D1	1st IF Screen Bypass
27	.01	200	22-1385	TP421	S-4-01	TC-11	484-.01	DT4S1	1st IF Fil. Bypass
28	.05	200	22-829	TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
29	.01	600	22-196	TP410	S-6-01	TC-11	684-.01	DT6S1	Conv. Plate Decoupling
30	.001	600	22-1431	TP404	S-6-001	TC-21	684-.001	DT6D1	RF Bypass Pwr. Supp.
31	100	600	22-162	MC235	MO.5-31	1FM-31	1468-.0001	5W5T1	FM Antenna
32	150	600	22-1127	MC236	MO.5-315	1FM-315	1468-.00015	5W5T15	Tone Compensation
33	500	600	22-1138	MC245	MO.5-35	1FM-35	1468-.0005	5W5T4	Audio Plate Bypass
34	50	500	22-1367	MCB225	MO8.5-45	MS-45	1469-.00005	5R5Q5	Limiter Grid Coupling
35	150	600	22-470	MC236	MO.5-315	1FM-315	1468-.00015	5W5T15	RF Bypass Diode Load
36	475	500	22-87	MC245	MO.5-35	1FM-35	1468-.0005	5W5T5	Converter Fil. Bypass
37	475	500	22-87	MC245	MO.5-35	1FM-35	1468-.0005	5W5T5	Converter Scr. Bypass
38	50	500	22-1492	MCB225	MO8.5-45	MS-45	1469-.00005	5R5Q5	Fixed Tuning Cond.
39	50	500	22-1367	MCB225	MO8.5-45	MS-45	1469-.00005	5R5Q5	Conv. Osc. Grid Cond.
40	18	500	22-1490	MCB220	MO8.5-42	MS-42	1469-.000025	5R5Q2	Fixed Tuning Cond.
41	250	600	22-182	MC240	MO.5-325	1FM-325	1468-.00025	5W5T25	RF Coupling
42	10	500	22-1489	MCB215	MO8.5-41	MS-41	1469-.00001	5R5Q1	" "
43	475	500	22-87	MC245	MO.5-35	1FM-35	1468-.0005	5W5T5	RF Screen Bypass
44	20	500	22-1491	MCB220	MO8.5-42	MS-42	1469-.000025	5R5Q2	Fixed Tuning Cond.
45	100	300	22-1488	MC235	MO.5-31	1FM-31	1468-.0001	5W5T1	AVC Filter
46	100	600	22-162	MC235	MO.5-31	1FM-31	1468-.0001	5W5T1	RF Plate Decoup.

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA ZENITH PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
47(A)	2.5 Meg	1	63-1486	DTM296	D13-139XX		Volume Control
(B)	Shaft		Not Req.	SS25	E		Attach to 47A per instructions
(C)	Switch		" "	M26	41		" " " " "

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	ZENITH PART No.	IRC PART No.	
48	100KΩ	½	63-160	BTS-100K	Br.-Blk.-Yl. Screen Dropping
49	6800Ω	½	63-639	BTS-6800	Blue-Gray-Red RF Plate
50	220KΩ	½	63-717	BTS-220K	Red-Red-Yl. AVC Filter
51	220KΩ	½	63-296	BTS-220K	Red-Red-Yl. Converter Grid
52	33KΩ	½	63-712	BTS-33K	Or.-Or.-Or. Osc. Grid
53	22KΩ	2	63-1058	AB-20K	Red-Red-Or. Screen Dropping
54	2200Ω	½	63-803	BTS-2200	Red-Red-Red Plate Filter
55	2.2 Meg.	½	63-722	BTS-2.2 Meg.	Red-Red-Grn. AVC Network
56	68KΩ	½	63-1225	BTS-68K	Blue-Gray-Or. Screen Dropping
57	2200Ω	½	63-803	BTS-2200	Red-Red-Red Plate Filter
58	68KΩ	½	63-1225	BTS-68K	Blue-Gray-Or. Screen Dropping
59	2200Ω	½	63-803	BTS-2200	Red-Red-Red Plate Filter
60	470KΩ	½	63-597	BTS-470K	Yl.-Vi.-Yl. Diode Load
61	47KΩ	½	63-593	BTS-47K	Yl.-Vi.-Or. RF Filter
62	220KΩ	½	63-296	BTS-220K	Red-Red-Yl. Series Dropping
63	220KΩ	½	63-296	BTS-220K	Red-Red-Yl. Screen Bleeder
64	47KΩ	½	63-593	BTS-47K	Yl.-Vi.-Or. Limiter Grid Leak
65	100KΩ	½	63-595	BTS-100K	Br.-Blk.-Yl. Plate Filter
66	100KΩ	½	63-595	BTS-100K	Br.-Blk.-Yl. Discriminator Load
67	100KΩ	½	63-595	BTS-100K	Br.-Blk.-Yl. " "
68	220KΩ	½	63-296	BTS-220K	Red-Red-Yl. RF Filter
69	15 Meg.	½	63-976	BTS-15 Meg.	Br.-Grn.-Blue 1st AF Grid
70	33Ω	½	63-1099	BW-½-33	Or.-Or.-Blk. 1st AF Cathode
71	470Ω	1	63-1222	BW-1-470	Yl.-Vi.-Br. Output Cathode
72	470KΩ	½	63-597	BTS-470K	Yl.-Vi.-Yl. Output Grid
73	120Ω	½		BW-½-120	Br.-Red-Br. Screen Dropping
74	220KΩ	½	63-296	BTS-220K	Red-Red-Yl. 1st AF Plate Load
75	47KΩ	½	63-767	BTS-47K	Yl.-Vi.-Or. Tone Compensation
76	47KΩ	½	63-767	BTS-47K	Yl.-Vi.-Or. " "
77	47KΩ	½	63-648	BTS-47K	Yl.-Vi.-Or. " "
78	150Ω	½	63-246	BW-½-150	Br.-Grn.-Br. 2nd IF Cathode

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA			
	PRI.	SEC. 1	SEC. 2	SEC. 3	ZENITH PART No.	STANCOR PART No.	THORDASON PART No.	UTAH PART No.
79	117V. @ .645A.	660V-C.T. @ .07A.	5.1V @ 1.88A.	6.4V @ 2.5A	98-922	P-4078*	T-13R36*	Y-675*

*Drill new mounting holes.

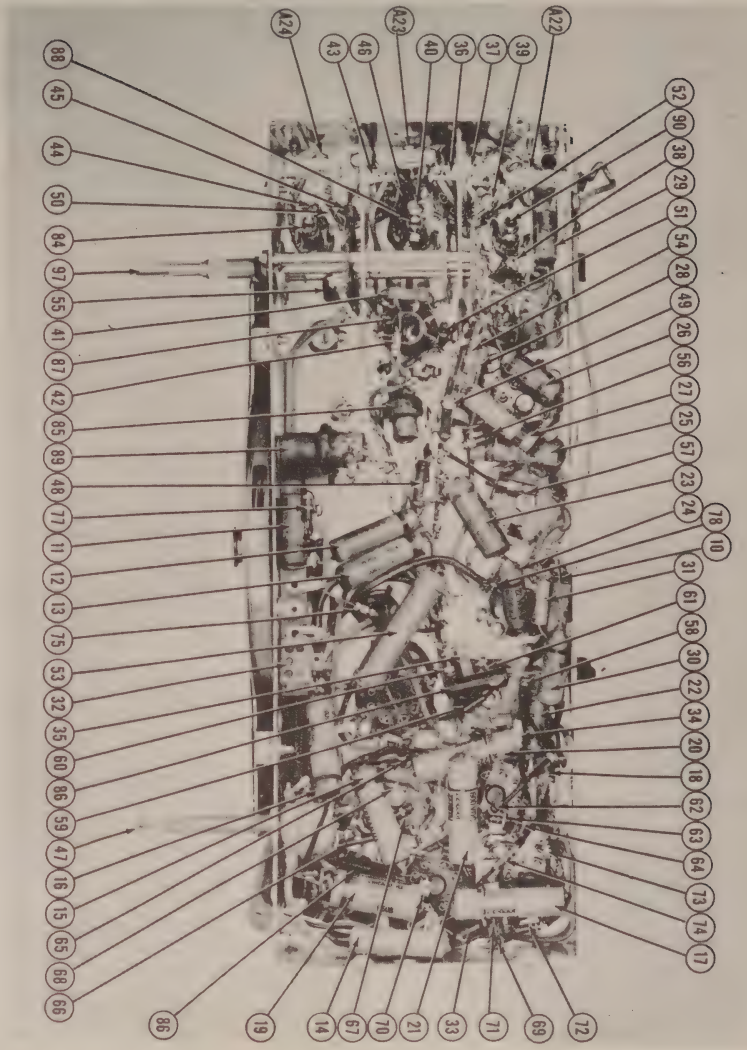
TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		ZENITH PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
80	6910Ω	3.57Ω	520Ω	.4Ω	Part of 49-536	A-3878	T-14S81	7364	

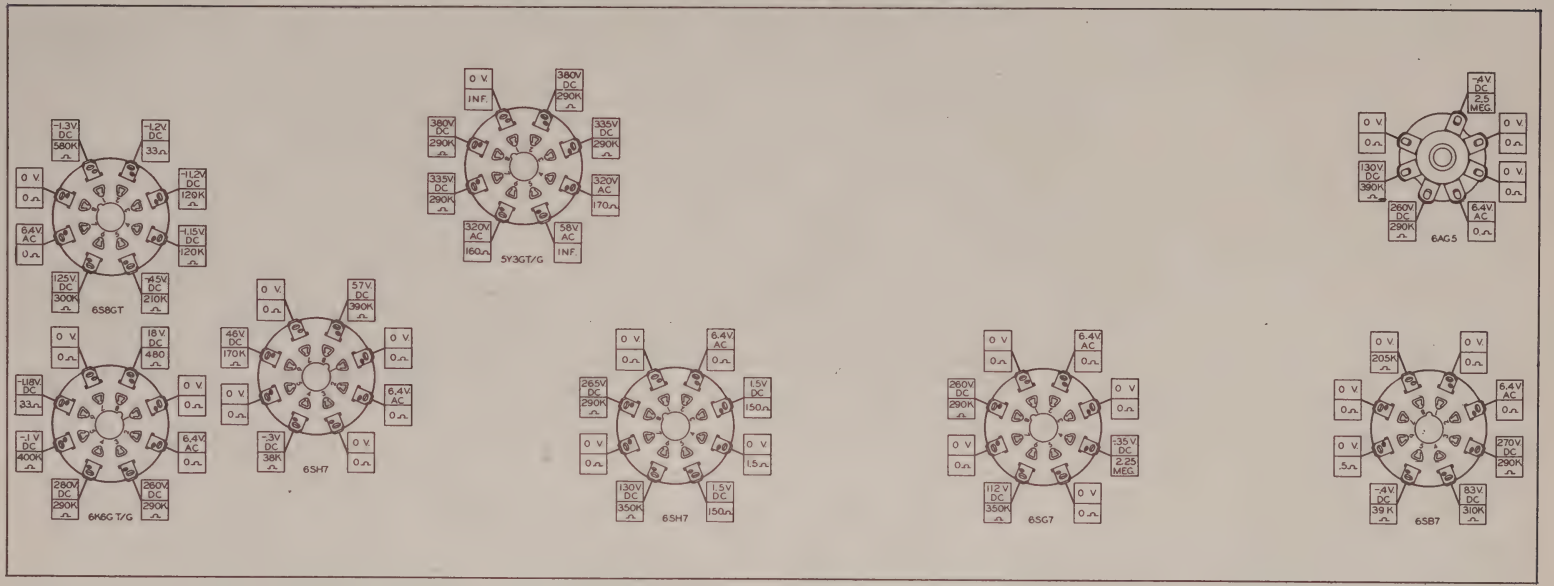
SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			ZENITH PART No.	JENSEN PART No.	UTAH PART No.	
	FIELD	VC IMP.				
81	620Ω	3.57Ω	49-536	ST-441*	R1010†	*Parallel field coil with 1250Ω 5W resistor and replace output transformer to match 6Ω voice coil. †Parallel field coil with 1500Ω 5W resistor. Output transformer supplied with this unit.
	CONE DIA.	VC DIA.				
	9-7/16"	1"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

CHASSIS—BOTTOM VIEW



VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

PARTS LIST AND DESCRIPTIONS

R F COILS

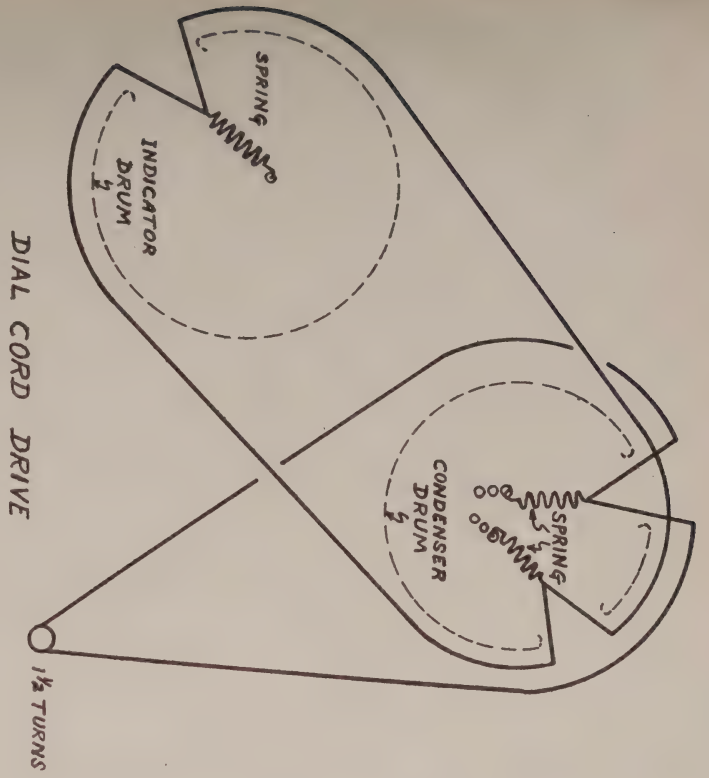
ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA ZENITH PART No.	REPLACEMENT DATA MEISSNER PART No.	INSTALLATION NOTES
82	Loop Ant.	.5Ω	1Ω	S-11461		
83	Ant. Load	.2Ω		S-12369		
84	FM Ant.	0Ω	0Ω	S-12257		
85	Wave Trap	50Ω		S-12253		
86	RF Choke	.3Ω		S-12256		
87	BC Det.	5Ω	13Ω	S-11156		
88	FM Det.	0Ω	0Ω	S-12258		
89	BC Osc.	.5Ω	10Ω	S-11291		
90	FM Osc.	0Ω	0Ω	S-12259		
91	Input IF	9Ω	9Ω	S-12249		455KC
91	Input IF	.6Ω	.6Ω	S-12249		8.3MC
92	InterstageIF	9Ω	8Ω	S-12250		455KC
92	InterstageIF	.6Ω	.6Ω	S-12250		8.3MC
93	Output IF	9Ω	9Ω	S-12251		455KC
93	Output IF	.6Ω	.6Ω	S-12251		8.3MC
94	Disc. IF	1.2Ω	1.6Ω	S-12252		8.3MC

DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA ZENITH PART No.		INSTALLATION NOTES
95	Bayonet	6-8	0.25	Blue	100-36		Type 44
96	"	"	"	"	100-36		" "

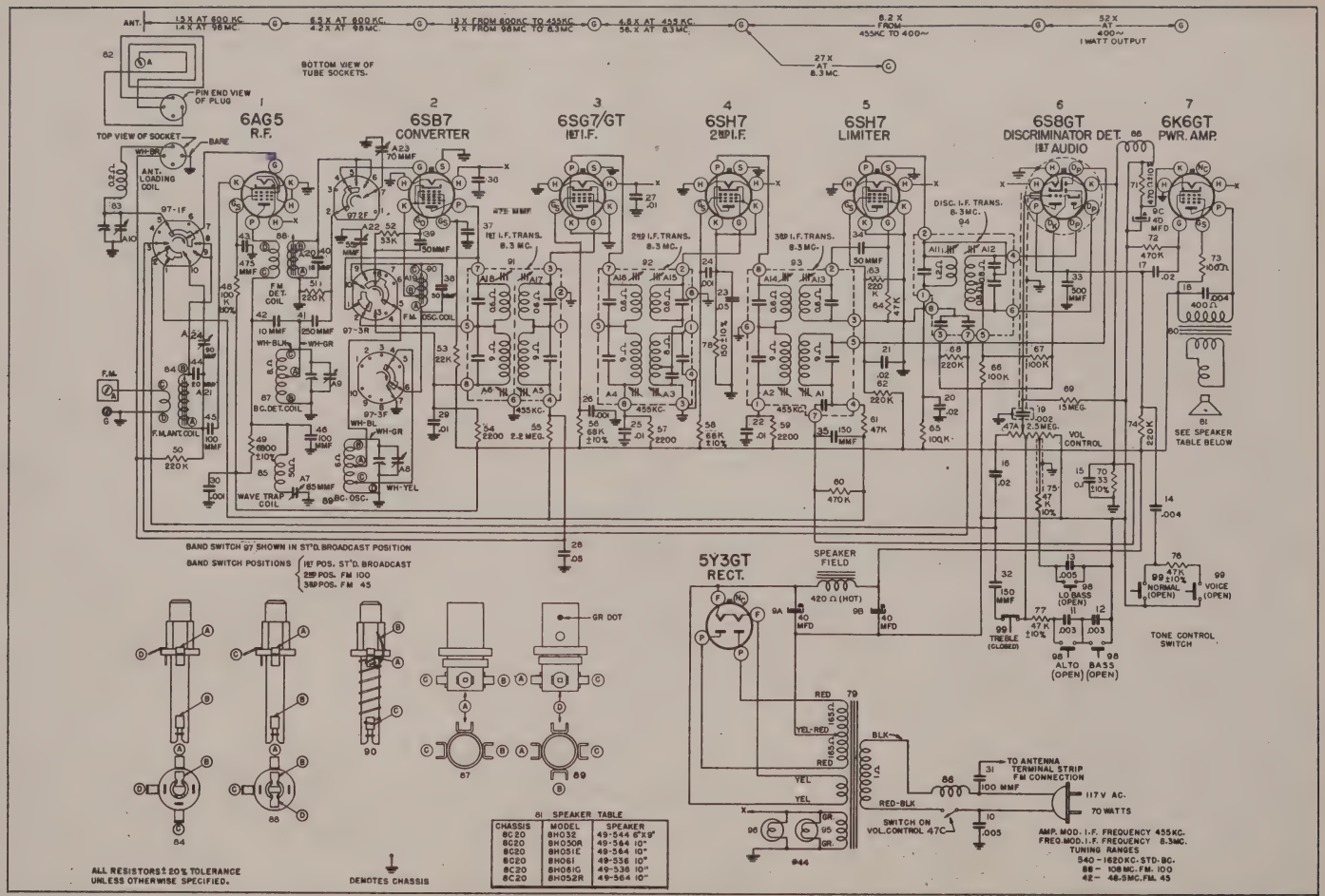
MISCELLANEOUS

ITEM No.	PART NAME	ZENITH PART No.	NOTES
97	Band Switch	85-378	
98	Tone Switch	S12510	
99	" "	"	



DIAL CORD DRIVE

SCHEMATIC DIAGRAM


ANT.
1.5 X AT 600 KC. 1.4 X AT 98 MC.
6.3 X AT 600 KC. 4.2 X AT 98 MC.
13 X FROM 600KC TO 455KC 5 X FROM 98MC TO 8.3MC
4.8 X AT 455 KC. 56. X AT 8.3 MC.
8.2 X FROM 455KC TO 400~
52 X AT 400~ 1 WATT OUTPUT
27 X AT 8.3 MC.
BOTTOM VIEW OF TUBE SOCKETS.
PIN END VIEW OF PLUG
TOP VIEW OF SOCKET
1 6AG5 R.F.
2 6SB7 CONVERTER
3 6SG7/GT 1ST I.F.
4 6SH7 2ND I.F.
5 6SH7 LIMITER
6 6S8GT DISCRIMINATOR DET. 1ST AUDIO
7 6K6GT PWR. AMP.
ANT. LOADING COIL
F.M. ANT. COIL
F.M. DET. COIL
BC. DET. COIL
WAVE TRAP COIL
F.M. OSC. COIL
BC. OSC.
1ST I.F. TRANS. 8.3 MC.
2ND I.F. TRANS. 8.3 MC.
3RD I.F. TRANS. 8.3 MC.
DISC. I.F. TRANS. 8.3MC.
455KC.
VOL. CONTROL
SEE SPEAKER TABLE BELOW
BAND SWITCH 97 SHOWN IN ST'D. BROADCAST POSITION
BAND SWITCH POSITIONS
1ST POS. ST'D. BROADCAST
2ND POS. FM 100
3RD POS. FM 45
5Y3GT RECT.
SPEAKER FIELD
420 Ω (HOT)
40 MFD
TREBLE (CLOSED)
LO BASS (OPEN)
ALTO (OPEN)
BASS (OPEN)
NORMAL (OPEN)
VOICE (OPEN)
TONE CONTROL SWITCH
GR DOT
RED
YEL-RED
BLK
YEL
RED-BLK
TO ANTENNA TERMINAL STRIP FM CONNECTION
117 V AC.
70 WATTS
SWITCH ON VOL. CONTROL 47C
AMP. MOD. I-F. FREQUENCY 455KC.
FREQ. MOD. I-F. FREQUENCY 8.3MC.
TUNING RANGES
540 - 1620KC. STD. BC.
88 - 108 MC. FM. 100
42 - 46.5MC. FM. 45
81 SPEAKER TABLE
CHASSIS | MODEL | SPEAKER
8C20 | 8HO32 | 49-544 6"X9"
8C20 | 8HO50R | 49-564 10"
8C20 | 8HO51E | 49-564 10"
8C20 | 8HO61 | 49-536 10"
8C20 | 8HO61G | 49-536 10"
8C20 | 8HO52R | 49-564 10"
ALL RESISTORS ± 20% TOLERANCE UNLESS OTHERWISE SPECIFIED.
DENOTES CHASSIS

The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

HOWARD W. SAMS & CO., INC.

2924 EAST WASHINGTON STREET • INDIANAPOLIS 6, INDIANA

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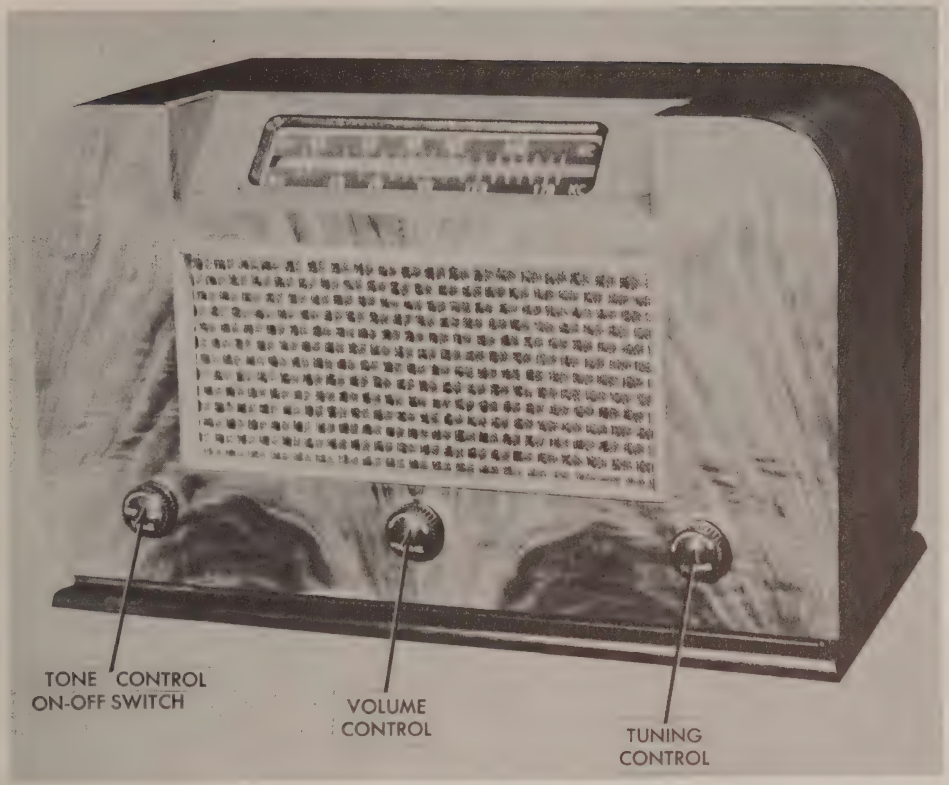
TRAV-LER
MODELS 5007, 5008, 5009
(CHASSIS 104)



TRAV-LER MODEL 5009

TRAV-LER
MODELS 5007, 5008, 5009
(CHASSIS 104)

TRADE NAME	Trav-Ler, Models 5007, 5008, 5009 (Chassis 104)
MANUFACTURER	Trav-Ler Karenola Radio and Tel. Corp. - 571 W. Jackson Blvd. - Chicago, Illinois
TYPE SET	AC-DC Superheterodyne - Self Contained Loop Antenna
TUBES (SIX)	Types 12SK7GT RF Amp., 12SA7GT Converter, 12SK7GT IF Amp., 12SQ7GT Det-AVC-AF, 35L6GT Power Output, 35Z5GT Rectifier
POWER SUPPLY	105-125 Volts AC-DC Rating .220 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	535 - 1730KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.1 MFD	High side to ant. section stator of tuning gang. Low side to B-.	455KC	Point of no interfering signal.	Across voice coil	A1,A2, A3,A4.	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between generator ground lead and receiver B-. Also decrease dummy ant. to .001 MFD to prevent excessive hum modulation.
"	"	1730KC	Tuning gang at min. cap. (out of mesh)	"	A5	"
200MMFD	High side to ant. lead (blue) at back of loop. Low side to B-.	1400KC	Tune in 1400 KC signal.	"	A6	Adjust for maximum output.
"	"	600KC	Tune in 600KC signal.	"	A7	Rock gang and adjust for maximum output. Recheck A5 at 1730KC.

Volume control at maximum volume and output from signal generator no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA		RMA BASE TYPE	INSTALLATION NOTES
		TRAV-LER PART No.	STANDARD REPLACEMENT		
1	RF Amp.	12SK7GT	12SK7GT	8N	
2	Converter	12SA7GT	12SA7GT	8AD	
3	IF Amp.	12SK7GT	12SK7GT	8N	
4	Det.-AVC-AF	12SQ7GT	12SQ7GT	8Q	
5	Power Output	35L6GT	35L6GT	7AC	
6	Rectifier	35Z5GT	35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA						IDENTIFICATION CODES AND INSTALLATION NOTES
	CAP.	VOLT	TRAV-LER PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	
7(A)	40	150	EC-3	2N514	DHN-2x50-150	TA-240	PRS150-40-40	BRL4215	Filter - Red
(B)	20	150							Filter - White
8	.05	400	PC-5	TP426	S-4-05	TC-15	484-.05	DT4S5	Line Filter
9	.05	400	PC-5	TP426	S-4-05	TC-15	484-.05	DT4S5	Tone Control
10	.01	400	PC-7	TP421	S-4-01	TC-11	484-.01	DT4S1	35L6 Plate Bypass
11	.01	400	PC-7	TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
12	.01	400	PC-7	TP421	S-4-01	TC-11	484-.01	DT4S1	" "
13	.1	400	PC-8	TP428	S-4-1	TC-1	484-.1	DT4P1	IF Screen Bypass
14	.05	400	PC-5	TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
15	.25	400	PC-9	TP430	S-4-25	TC-2	484-.25	DT4P25	Line Isolating
16	.01	400	PC-7	TP421	S-4-01	TC-11	484-.01	DT4S1	Ant. Coupling
17	220	500	MC-3	MCB240	MOS.5-325	1FM-325	1469-.00025	5R5T25	Audio Plate Bypass
18	100	500	MC-2	MC235	MO.5-31	1FM-31	1468-.0001	5W5T1	RF Bypass Diode
19	56	500	MC-4	MC225	MO.5-45	1FM-45	1468-.00005	5W5Q5	Osc. Grid Cond.
20	220	500	MC-3	MCB240	MOS.5-325	1FM-325	1469-.00025	5R5T25	RF Coupling
21	150	500		MCB236	MOS.5-315	1FM-315	1469-.00015	5R5T15	Fixed Pad

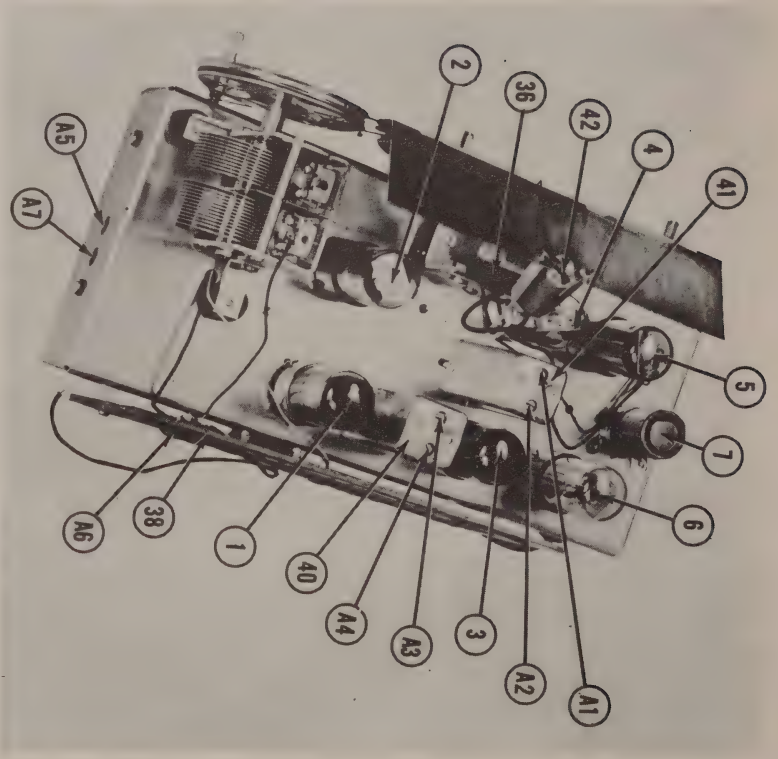
CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESISTANCE	WATTS	TRAV-LER PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	
22(A)	1 Meg.	1	VC-3	MK402	D13-137	AM-63-Z	Volume Control
(B)	Shaft		Not Req.	Not Req.	E	KSS-3	Attach to 22A per instructions
23(A)	25KΩ	1	VC-1	UM129	D11-120	AM-40-S	Tone Control
(B)	Shaft		Not Req.	SS25	E	KSS-3	Attach to 23A per instructions
(C)	Switch		" "	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES
	RESISTANCE	WATTS	TRAV-LER PART No.	IRC PART No.	
24	3900Ω	½	IR-22	BTS-3900	Or.-White-Red RF Plate Load
25	47KΩ	½	IR-10	BTS-47K	Yl.-Vi.-Or. Converter Grid
26	22KΩ	½	IR-9	BTS-22K	Red-Red-Or. Osc. Grid
27	1000Ω	½	IR-24	BTS-1000	Br.-Blk.-Red IF Plate Filter
28	47KΩ	½	IR-10	BTS-47K	Yl.-Vi.-Or. Diode Load
29	3.9 Meg.	½	IR-23	BTS-3.9 Meg	Or.-White-Grn. AVC Network
30	2 Meg.	½	IR-13	BTS-2.2 Meg	Red-Blk.-Grn. 1st AF Grid
31	470KΩ	½	IR-11	BTS-470K	Yl.-Vi.-Yl. 1st AF Plate Load
32	470KΩ	½	IR-11	BTS-470K	Yl.-Vi.-Yl. Output Grid
33	220Ω	½	IR-5	BW-½-220	Red-Red-Br. Output Cathode
34	2000Ω	1	IR-25	BW-1-1800	Red-Blk.-Red Filter
35	39Ω	½	IR-17	BW-½-39	Or.-White-Blk. Rectifier Ballast

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		TRAV-LER PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
36	2040Ω	2.8Ω	149Ω	.59Ω	Part of SPK-4	A-3876*	T-14882*	8775*	*Bend mounting tabs down and mount be original bracket.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			TRAV-LER PART No.	JENSEN PART No.	UTAH PART No.	
37	FIELD	VC IMP.	SPK-4	ST-105†	5PY†	†Cut speaker so as to clear volume control shaft. Drill and tap magnet frame or fabricate new mounting bracket.
	CONE DIA.	VC DIA.				
	4-9/16"	1/2"	NOT REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	TRAV-LER PART No.	MEISSNER PART No.	
38	Loop Ant.	0Ω	1Ω	LL-2		
39	Osc.	1.1Ω	5.6Ω	LO-3	14-1040	
40	Input IF	6Ω	6.5Ω	LI-1	16-6658	
41	Output IF	6Ω	6.5Ω	LI-2	16-6660	

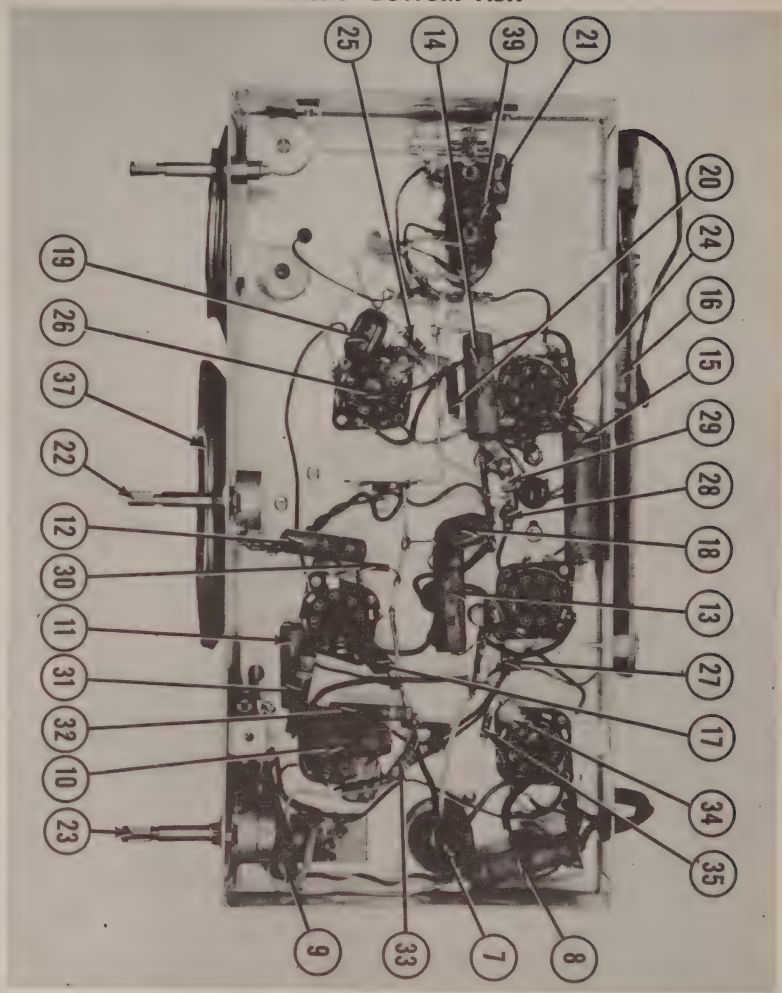
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					TRAV-LER PART No.		
42	Bayonet	6-8	.15	Brown	PB-1		Type 47

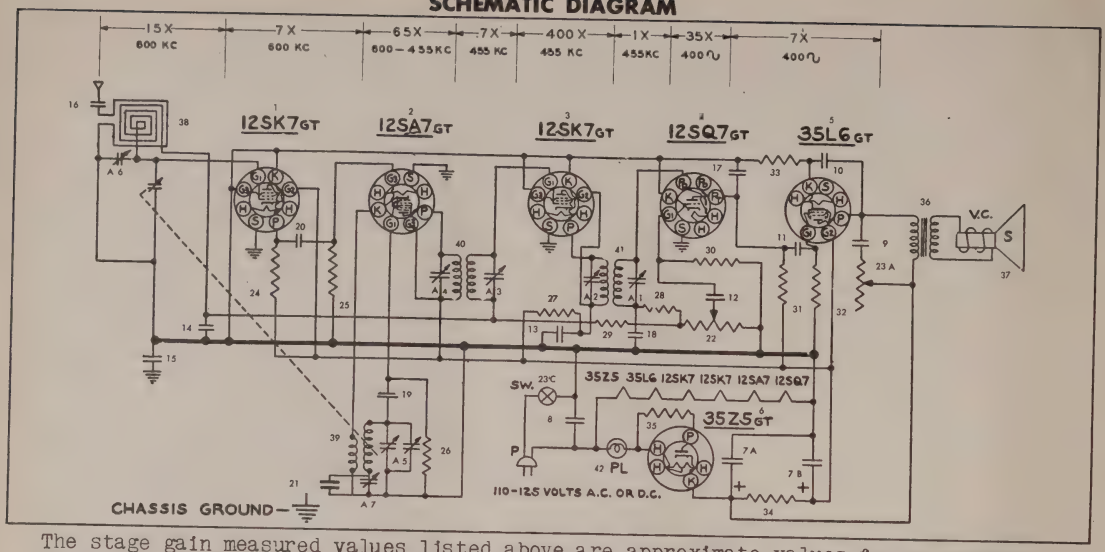
MISCELLANEOUS

ITEM No.	PART NAME	TRAV-LER PART No.	NOTES
	Tuning Cap.	GC-1	2 Gang Tuning Capacitor
A5	Trimmer Cap.	TC-5	Oscillator Trimmer Capacitor
A7	"	"	Oscillator Padding Capacitor (Part of TC-5)
	Line Cord	CO-1	

CHASSIS—BOTTOM VIEW

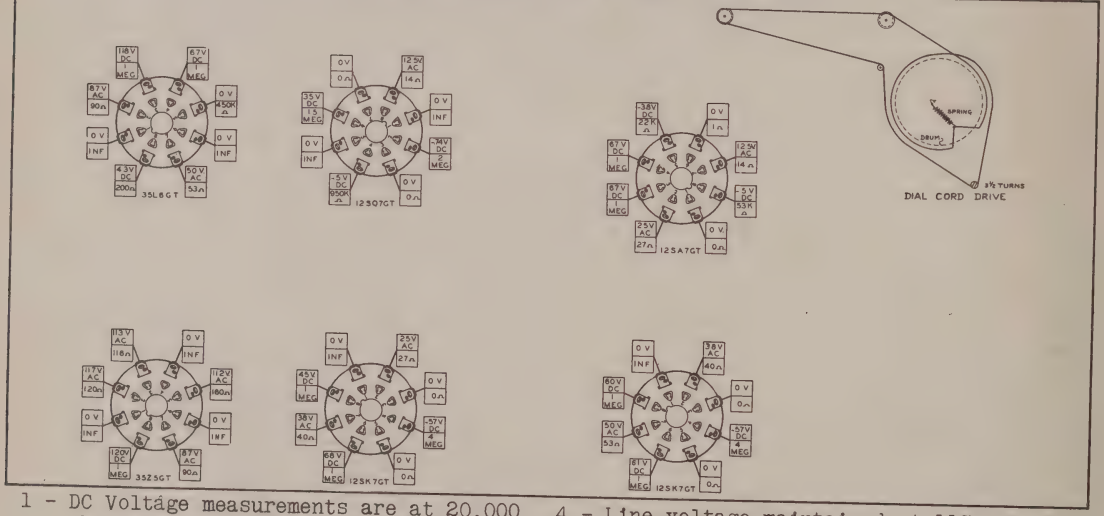


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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95 (NINETY-FIVE) MODELS

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These are covered in 36 PhotoFact Folders. 33 are conventional 4-pages. One is eight pages (the equivalent of two 4-page folders) and two are 6-page folders (the equivalent of three 4-page folders). On the basis of counting them all as 4-pages this *1st* Set then, is equal to 38 or a cost of less than four cents a folder.

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Your comments, constructive criticisms and suggestions will be deeply appreciated.

INDEX FOR THIS SET OF PHOTOFACT FOLDERS
IS ON OPPOSITE SIDE OF THIS SHEET

INDEX TO PHOTO FACT FOLDERS...SET No. 1

TRADE NAME	MODEL	FOLDER No.
Admiral	6T01 (Chassis 6A1)	461-19
Admiral	6T02 (Chassis 5B1)	461-20
Admiral	6T04 (Chassis 5B1)	461-20
Admiral	6T05 (Chassis 6A1)	461-19
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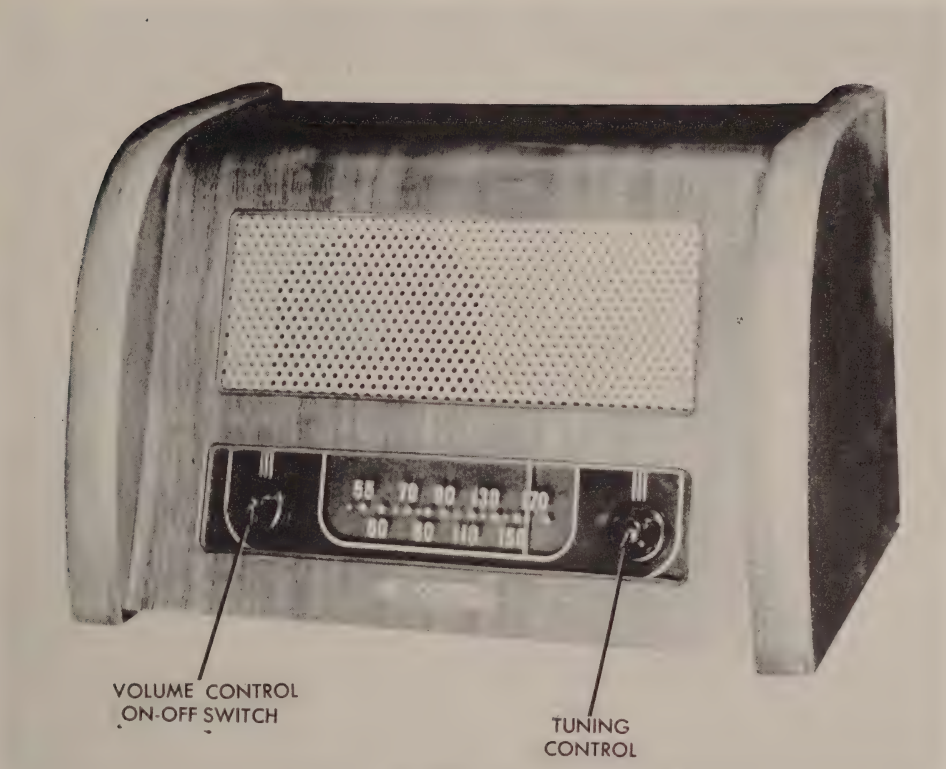
(SEE OPPOSITE SIDE OF THIS SHEET)

TELETONE
MODEL 117 A



TELETONE MODEL 117A

TELETONE
MODEL 117 A

TRADE NAME	Teletone, Model 117A
MANUFACTURER	Teletone Radio Co., 309 West 51st Street, New York, N. Y.
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (SIX)	Types 14Q7 Converter, 14A7/12B7 IF Amplifier, 14B6 Det-AVC, 14B6 1st AF, 35L6GT Power Output, 35Y4 Rectifier.
POWER SUPPLY	117 Volts AC-DC Rating .230 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	530KC to 1700KC SHORT WAVE

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.05 MFD	High side to ant. stator section of tuning gang. Low side to B-.	455KC	Point of no interfering signal.	Across voice coil.	A1,A2, A3,A4.	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between generator ground lead and receiver B-. Also decrease dummy ant. to .001 MFD to prevent excessive hum modulation.
200MMFD	High side to ant. (blue) lead. Low side to B-.	1500KC	1500KC	"	A5	Adjust for maximum output.
"	"	"	"	"	A6	" " " " Check sensitivity at 600KC

Volume control at maximum volume and output from signal generator no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: TELETONE PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	Converter	14Q7	14Q7	8AL	
2	IF Amp.	14A7/12B7	14A7/12B7	8V	
3	Det-AVC	14B6	14B6	8W	
4	1st. AF	14B6	14B6	8W	
5	Power Output	35L6GT	35L6GT	7AC	
6	Rectifier	35Y4	35Y4	5AL	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: TELETONE PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7(A)	20	150		TN129	DHN-2X20-150	TA-220	PRS150-20-20	EZ42215	Filter - Blue
(B)	20	150							Filter - Green
(C)	20	150			DH-20-150	UT-201	PRS150-20		Filter - Red
8	.05	400		TP426	S-4-05	TC-15	484-.05	DT4S5	Line Filter
9	.01	400		TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
10	.0025	600		TP406	S-6-003	TC-23	584-.003	DT6D3	"
11	.05	400		TP426	S-4-05	TC-15	484-.05	DT4S5	AVC Filter
12	.1	200		TP428	S-4-1	TC-1	464-.1	DT4P1	Line Isolating
13	.005	600		TP408	S-6-005	TC-25	584-.005	DT6D5	Ant. Coupling
14	6000	500		MC467	MW.5-26	1FM-26	1467-.006	1D5D6	35L6 Feedback

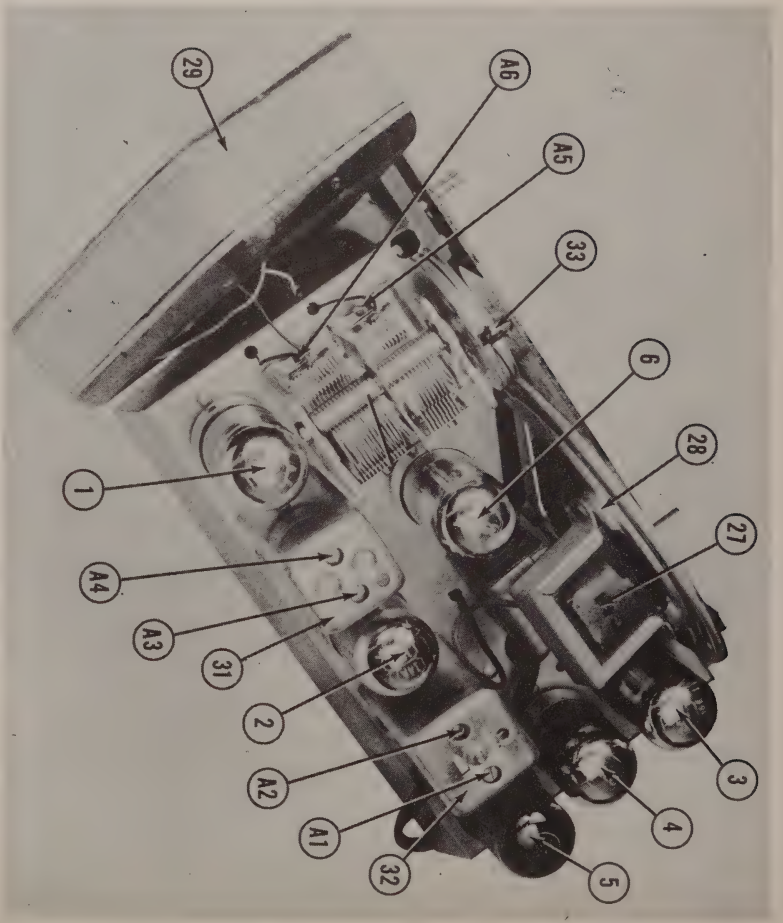
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: TELETONE PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
15(A)	500KΩ	1	672	MR48*	D13-133*	M-60-Z*	*See Installation Note 1.
(B)	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 15A per instructions.
(C)	Switch		" "	M26	41	SW-A	" " " " "
	INSTALLATION		NOTE 1: Install a 47KΩ resistor in series with the right hand terminal of the control and the lead connecting to the same terminal of the original control. (Controls viewed from shaft side, terminals down.)				

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: TELETONE PART No.	REPLACEMENT DATA: IRC PART No.	IDENTIFICATION CODES
16	22KΩ	½		BTS-22K	Red-Red-Or. Osc. Grid
17	2.2 Meg.	½		BTS-2.2 Meg.	Red-Red-Grn. AVC Network
18	10 Meg.	½		BTS-10 Meg.	Br.-Blk.-Blue 1st AF Grid
19	220KΩ	½		BTS-220K	Red-Red-Yl. 1st AF Plate Load
20	500KΩ	½		BTS-500K	Grn.-Blk.-Yl. Output Grid
21	3300Ω	½		BTS-3300	Or.-Or.-Red Audio Feedback
22	180Ω	½		BW-½-180	Br.-Gray-Br. Output Cathode
23	150Ω	1		BW-1-150	Br.-Grn.-Br Filter
24	15Ω	½		BW-½-15	Br.-Grn.-Blk. Surge Limiting
25	1500Ω	½		BW-1-1500	Br.-Grn.-Red Filter
26	220KΩ	½		BTS-220K	Red-Red-Yl. Line Isolating

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		TELETONE PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
27	1400Ω	3.2Ω	148Ω	.5Ω	Part of A-SF.1	A-3376†	T-14882	8775	†Requires one new mounting hole.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			TELETONE PART No.	JENSEN PART No.	UTAH PART No.	
28	FIELD PM	VC IMP 3.2Ω	A-SP.1	ST-105‡	5PY‡	‡Drill holes in front of chassis and mount speaker by the lip holes.
	CONE DIA. 4-5/8"	VC DIA. 1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT.			

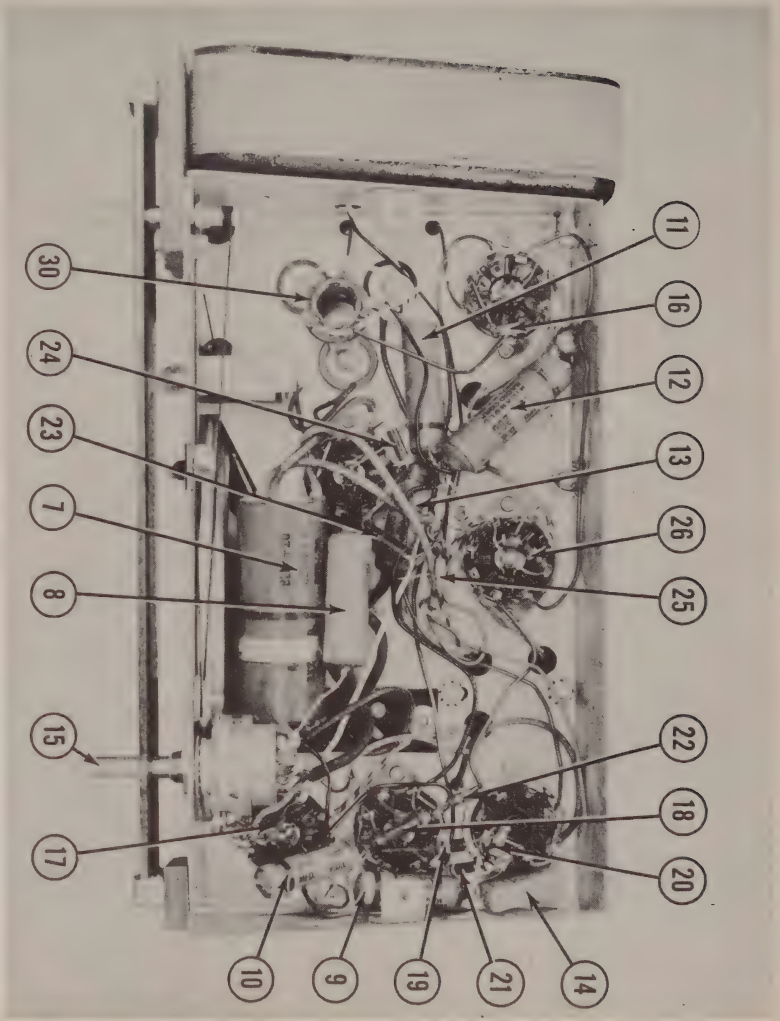
R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	TELETONE PART No.	MEISSNER PART No.	
29	Loop Ant.	.2Ω	1.2Ω	A-LF-1		
30	Osc. Coil	.5Ω	6Ω	A-LC-1	14-1040#	#Install 50 MMFD. from osc. grid to coil. (Lug 1)
31	Input IF	21Ω	21Ω	A-LF-1	16-6658	
32	Output IF	16Ω	16Ω	A-LF-3	16-6660††	††Install 220 MMFD. across volume control.

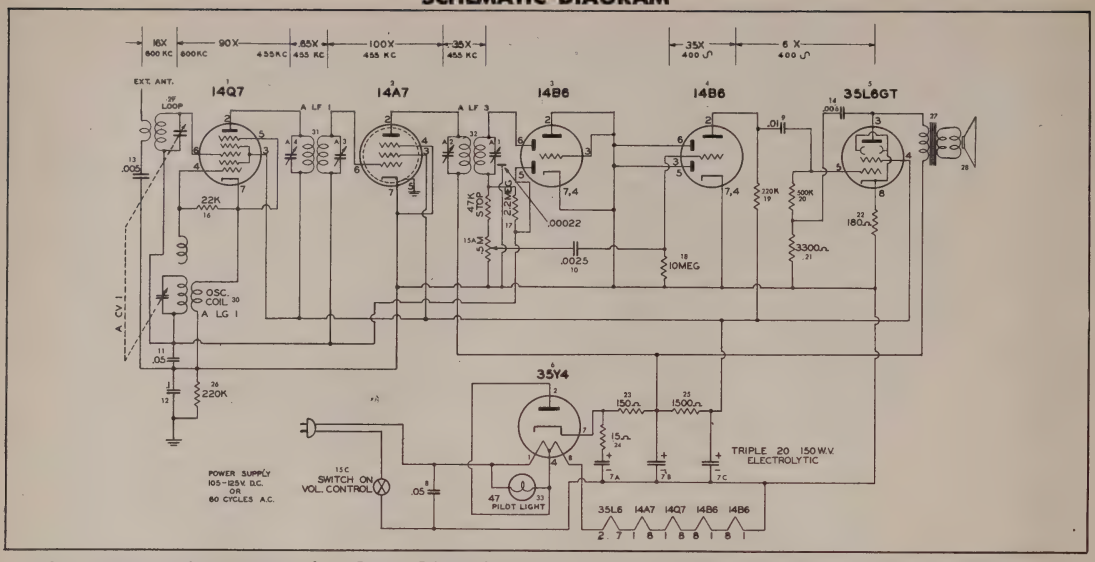
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					TELETONE PART No.		
33	Bayonet	6-8	.15	Brown			47

CHASSIS—BOTTOM VIEW

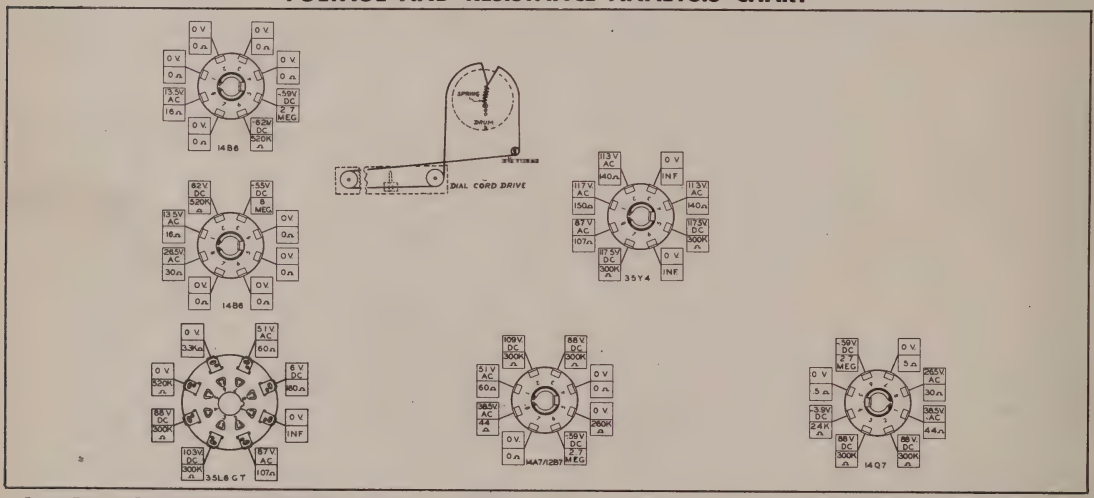


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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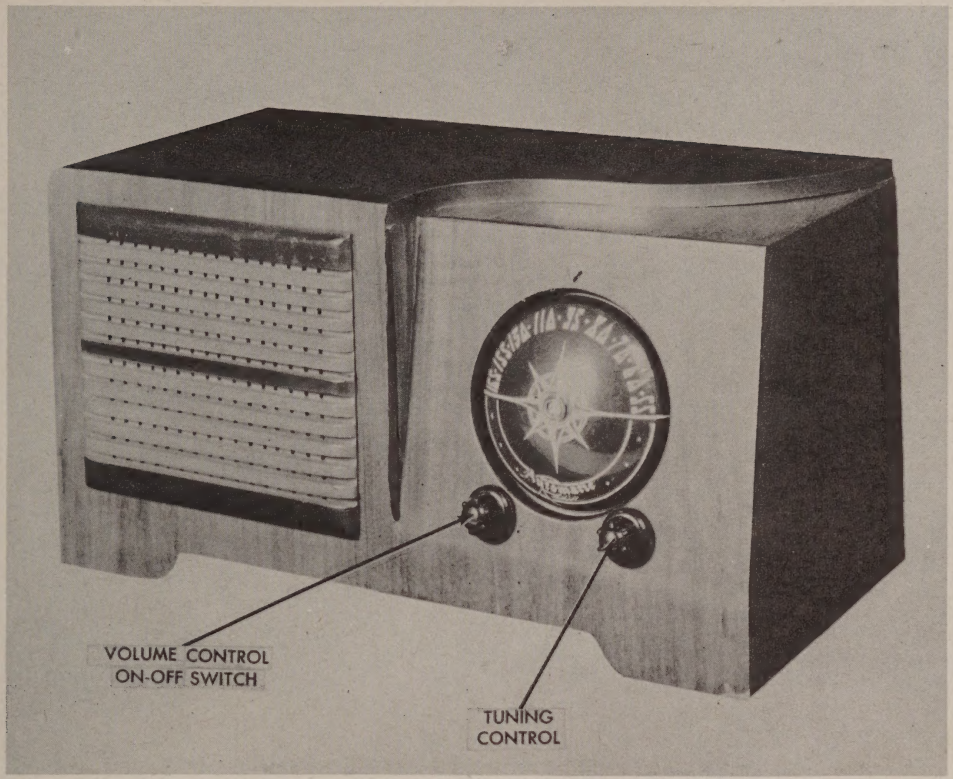
AUTOMATIC
MODEL 612 X



AUTOMATIC MODEL 612X

AUTOMATIC
MODEL 612 X

TRADE NAME	Automatic, Model 612X
MANUFACTURER	Automatic Radio Mfg. Co. Inc. - 122 Brookline Ave. - Boston, Mass.
TYPE SET	AC - DC Superheterodyne - Self Contained Loop Antenna
TUBES (SIX) ·	Types 12SK7GT RF Amplifier, 12SA7GT Converter, 12SK7GT IF Amplifier, 12SQ7GT Det-AVC-AF, 35L6GT Power Output, 35Z5GT Rectifier.
POWER SUPPLY	117 Volts AC-DC Rating .240 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	**SHORT WAVE**

ALIGNMENT INSTRUCTIONS

DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
.05 MFD	High side to pin #6 (signal grid) of 12SA7. Low side to chassis.	456KC	Point of no interfering signal.	Across voice coil.	A1,A2, A3,A4.	Adjust for maximum output. Use isolation transformer if available. If not, isolating capacitor must be connected between generator ground lead and receiver chassis. Also decrease dummy ant. to .001 MFD to prevent excessive hum modulation.
"	High side to pin #4 (grid) of 12SK7 (RF amp.). Low side to chassis.	"	540KC	"	A5	Adjust for minimum output. Use isolating instructions as given for A1,A2,A3 and A4.
200 MMFD	"	1700KC	1700KC(Rotors out of mesh)	"	A6	Adjust for maximum output. Use isolating transformer or isolating capacitor.
	Loop	1400KC	Tune in 1400 KC signal.	"	A7	Adjust for maximum output. Connect output of signal generator to loop of few turns of wire and radiate signal into receiver loop. (Receiver loop in same position as it will be with chassis in cabinet.

Volume control at maximum volume and output from signal generator no higher than necessary to obtain output reading. Use insulated alignment screwdriver for adjusting.

PARTS LIST AND DESCRIPTIONS

TUBES

ITEM No.	USE	REPLACEMENT DATA: AUTOMATIC PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RMA BASE TYPE	INSTALLATION NOTES
1	RF Amp.		12SK7GT	8N	
2	Converter		12SA7GT	8AD	
3	IF Amp.		12SK7GT	8N	
4	Det.-AVC-AF		12SQ7GT	8Q	
5	Power Output		35L6GT	7AC	
6	Rectifier		35Z5GT	6AD	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: AUTOMATIC PART No.	MALLORY PART No.	SOLAR PART No.	SPRAGUE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	IDENTIFICATION CODES AND INSTALLATION NOTES
7	50	150		TC49	M-40-150	UT-501	PRS150-50	BR5015	Filter
8	30	150		TC47	M-30-150	UT-301	PRS150-30	BR3015	"
9	.05	400		TP426	S-4-05	TC-15	484-.05	DT4S5	Line Filter
10	.01	400		TP421	S-4-01	TC-11	484-.01	DT4S1	35L6 Plate Bypass
11	.01	400		TP421	S-4-01	TC-11	484-.01	DT4S1	Audio Coupling
12	.002	400		TP405	S-3-002	TC-22	484-.002	DT6D2	" "
13	.1	200		TP426	S-4-1	TC-1	484-.1	DT4P1	AVC Filter
14	100	500		MC235	M0.5-31	1FM-31	1468-.0001	5W5T1	Audio Grid Bypass
15	500	500		MC245	M0.5-35	1FM-35	1468-.0005	5W5T5	RF Bypass Diode
16	100	500		MC235	M0.5-31	1FM-31	1468-.0001	5W5T1	Osc. Grid Cond.
17	500	500		MC245	M0.5-35	1FM-35	1468-.0005	5W5T5	RF Coupling

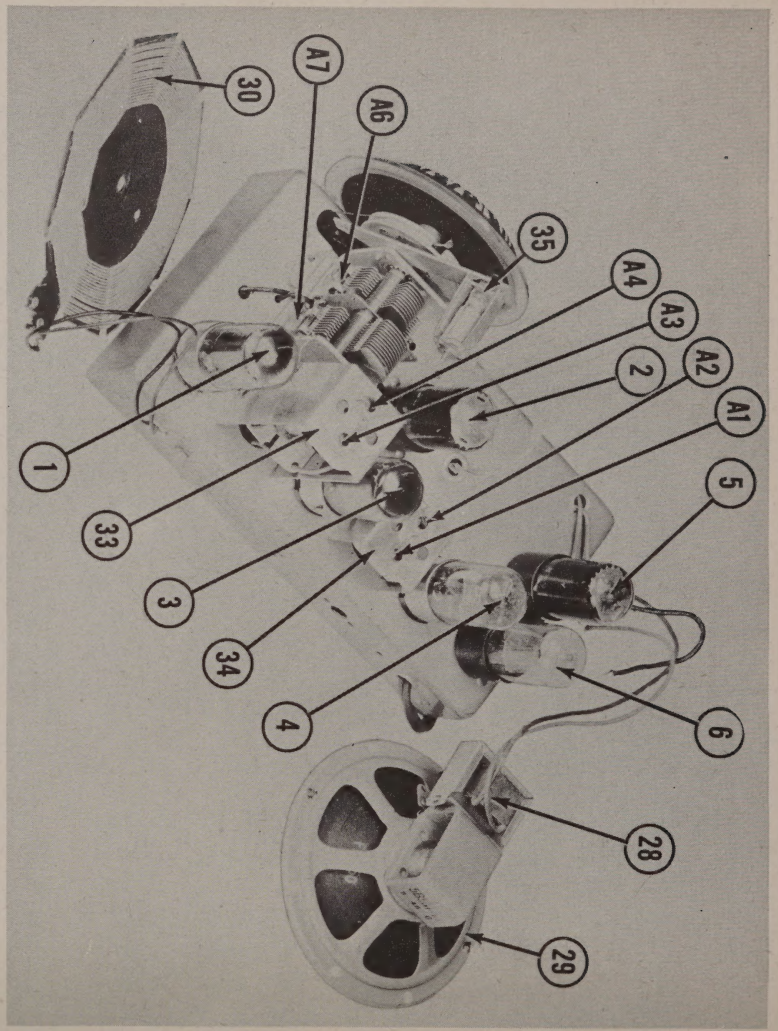
CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AUTOMATIC PART No.	MALLORY PART No.	IRC PART No.	CLAROSTAT PART No.	INSTALLATION NOTES
18(A)	250KΩ	1	RV-46	MR44	D13-130	M-64-Z	Volume Control.
(B)	Shaft		Not Req.	Not Req.	A	Not Req.	Attach to 18A per instructions.
(C)	Switch		" "	M26	41	SW-A	" " " " "

RESISTORS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: AUTOMATIC PART No.	IRC PART No.	IDENTIFICATION CODES
19	4000Ω	1		BTA-3900	Yl.-Blk.-Red RF Plate Load
20	500KΩ	½		BTS-470K	Grn.-Blk.-Yl. Converter Grid
21	47KΩ	½		BTS-47K	Yl.-Vi.-Or. Osc. Grid
22	2 Meg.	½		BTS-2.2 Meg.	Red-Blk.-Grn. AVC Network
23	10 Meg.	½		BTS-10 Meg.	Br.-Blk.-Blue 1st AF Grid
24	250KΩ	½		BTS-270K	Red-Grn.-Yl. 1st AF Plate Load
25	1 Meg.	½		BTS-1 Meg.	Br.-Blk.-Grn. Output Grid
26	1000Ω	2		BW-2-1000	Br.-Blk.-Red Filter
27	150Ω	1		BW-1-150	Br.-Grn.-Br. Fixed Bias

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS

TRANSFORMER (OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA				INSTALLATION NOTES
	IMPEDANCE		DC RES.		AUTOMATIC PART No.	STANCOR PART No.	THORDAR'N PART No.	UTAH PART No.	
	PRI.	SEC.	PRI.	SEC.					
28	1640Ω	3.2Ω	142Ω	.7Ω		A-3876†	T-14882*	8775*	†Lengthen secondary leads and mount on chassis. *Bend mounting tabs down and mount by original bracket.

SPEAKER

ITEM No.	RATINGS		REPLACEMENT DATA			INSTALLATION NOTES
			AUTOMATIC PART No.	JENSEN PART No.	UTAH PART No.	
	FIELD	VC IMP.				
29	PM	3.2Ω		ST-105	5PY	
	CONE DIA.	VC DIA.				
	4-13/16"	1/2"	NOT READILY REPLACEABLE-USE COMPLETE SPEAKER UNIT			

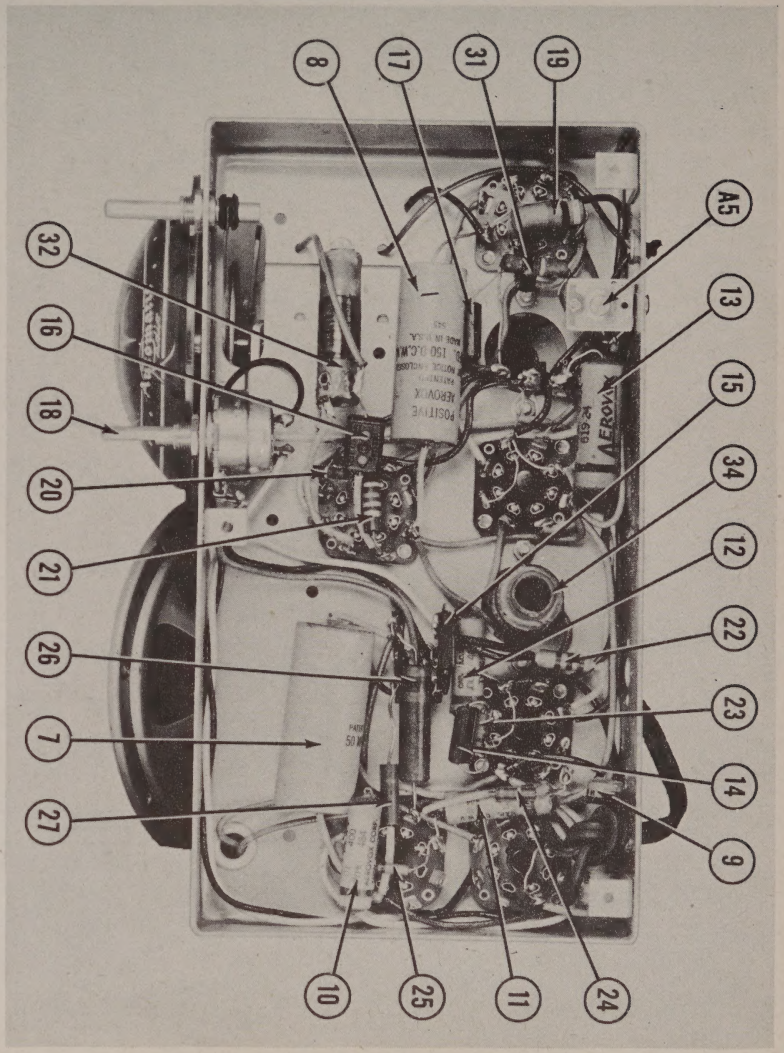
R F COILS

ITEM No.	USE	DC RES.		REPLACEMENT DATA		INSTALLATION NOTES
		PRI.	SEC.	AUTOMATIC PART No.	MEISSNER PART No.	
30	Loop Ant.	.8Ω				
31	Wave Trap	45Ω				
32	Osc.	.5Ω	10.5Ω		14-1040	
33	Input IF	15Ω	15Ω		16-6658	
34	Output IF	16Ω	16Ω		16-6660	

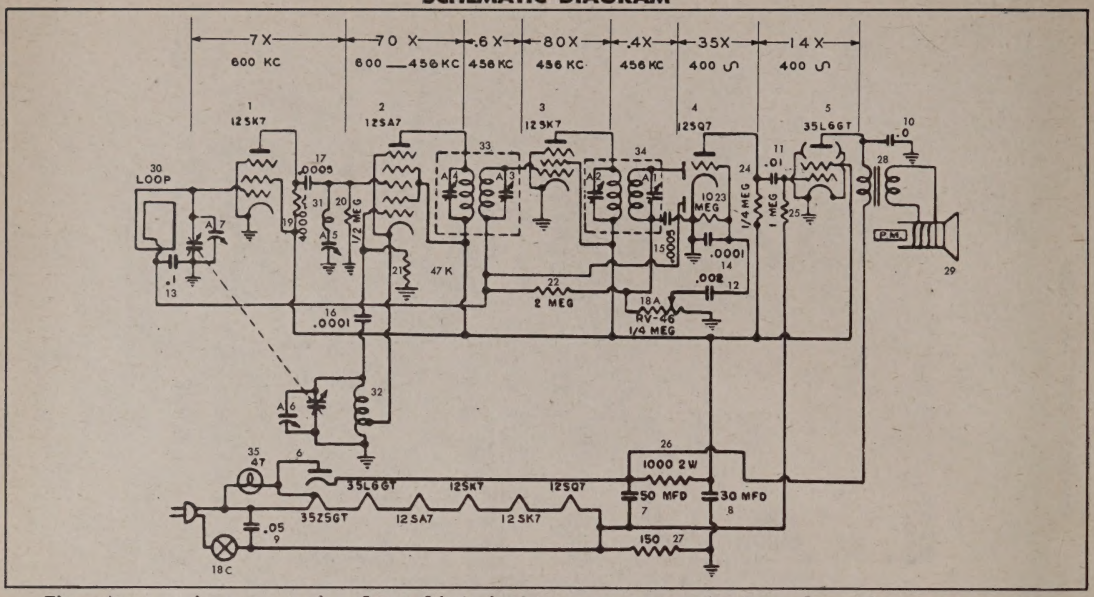
DIAL LIGHT

ITEM No.	BASE TYPE	VOLTS	AMPS.	BEAD COLOR	REPLACEMENT DATA		INSTALLATION NOTES
					AUTOMATIC PART No.		
35	Bayonet	6-8	0.15	Brown			47

CHASSIS—BOTTOM VIEW

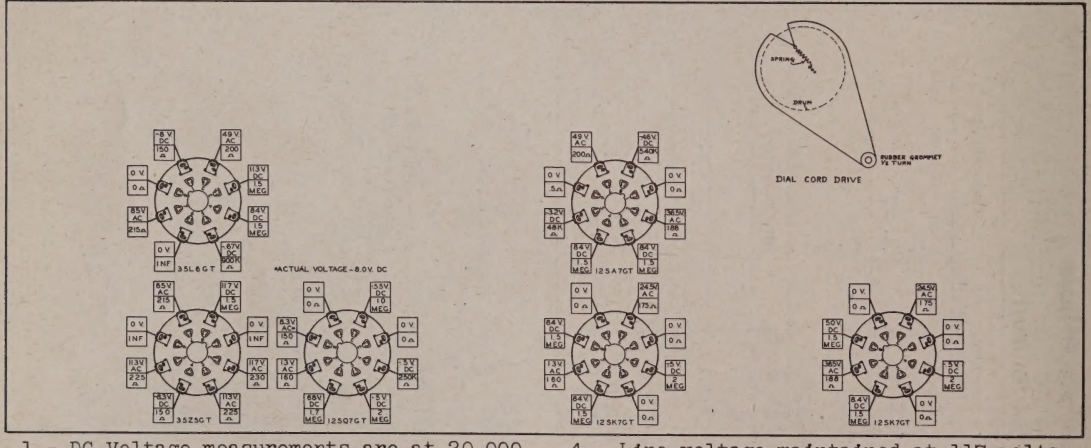


SCHEMATIC DIAGRAM



The stage gain measured values listed above are approximate values for an average operative stage, rather than an absolute value. It should be borne in mind that it is possible to introduce so many variables into the measurement operation, such as, type of equipment used for measuring, handling and placement of probes, the accuracy of alignment, etc., that an absolute reading is impractical. AVC is made inoperative and 3-volt battery bias substituted for measurement.

VOLTAGE AND RESISTANCE ANALYSIS CHART



1 - DC Voltage measurements are at 20,000 ohms per volt: AC Voltages measured at 1000 ohms per volt.

2 - Socket connections are shown as bottom views.

3 - Measured values are from socket pin to common negative.

4 - Line voltage maintained at 117 volts for voltage readings.

5 - Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings.

6 - Volume control at maximum, no signal applied for voltage measurements.

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